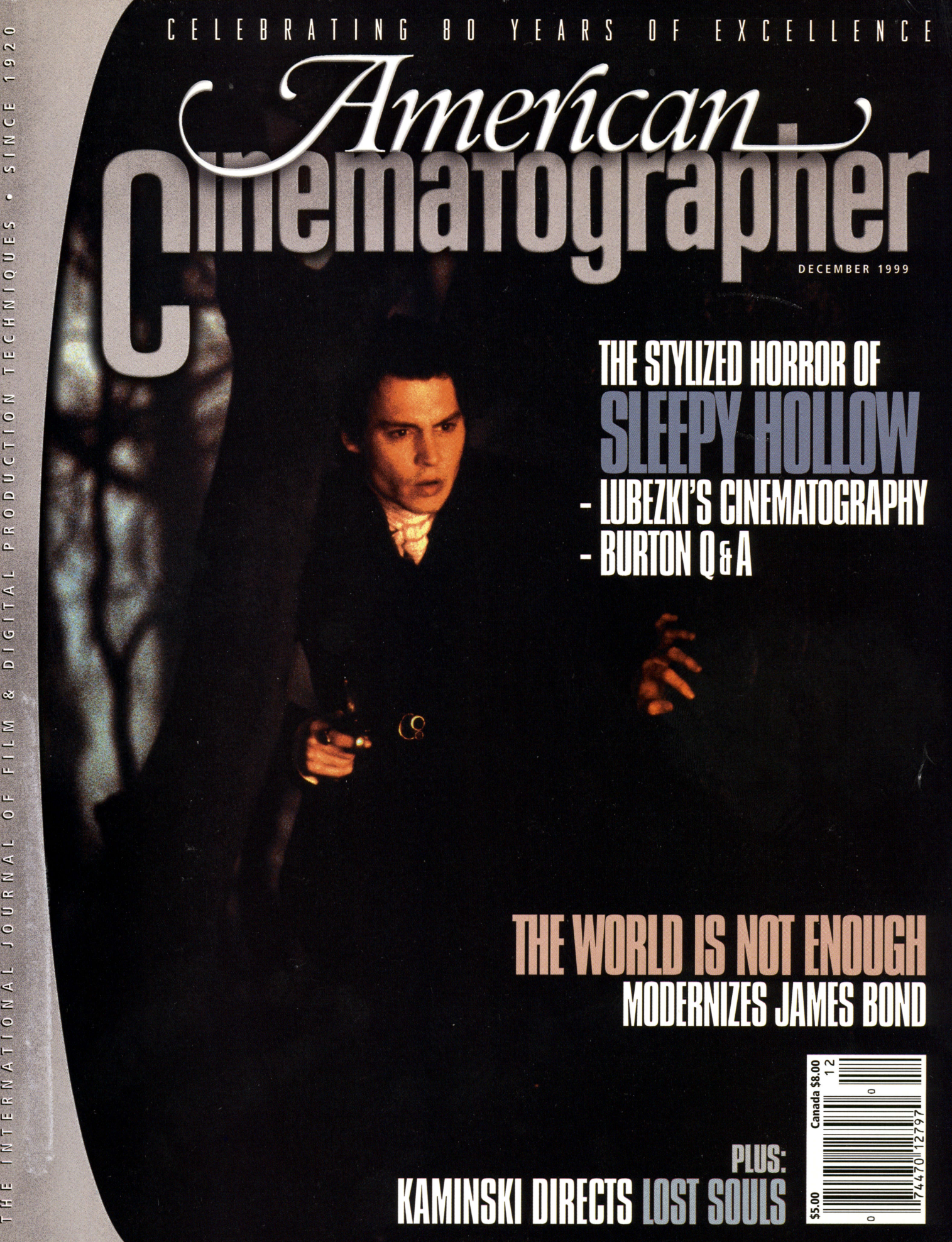
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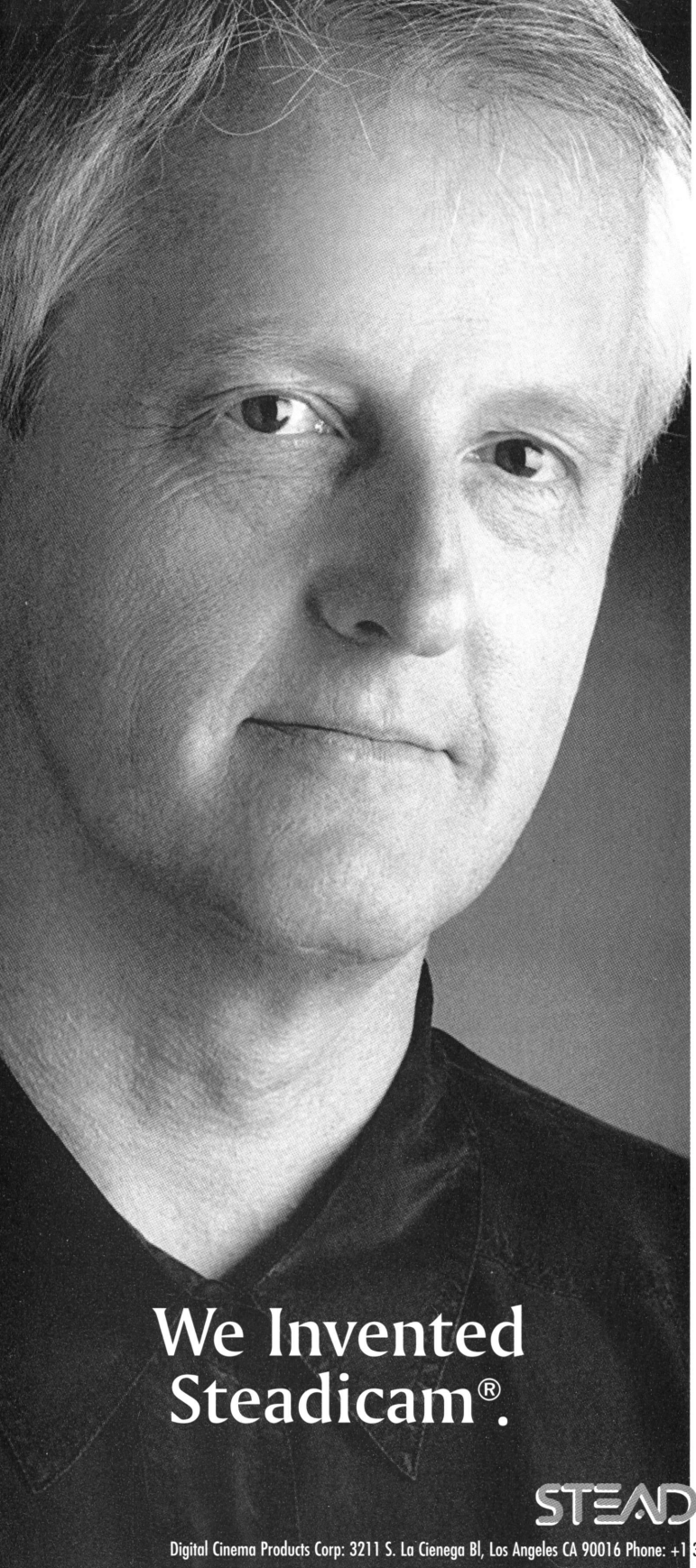
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LIFETIME ACHIEVEMENT AWARD RECIPIENT: WILLIAM A. FRAKER, ASC

The American Society of Cinematographers (ASC) will honor the life and work of William A. Fraker, ASC in the February 2000 issue of *American Cinematographer*.

Mr. Fraker will be presented with the Society's Lifetime Achievement Award at the 14th Annual ASC Awards ceremony, to be held on February 20, 2000 at the Century Plaza Hotel in Los Angeles.

The February 2000 issue of *AC* will feature an extensive editorial review of Mr. Fraker's achievements, as well as coverage of his most recent film, *Town and Country*. During a professional career that has spanned some 32 years, he has compiled nearly 45 feature film credits as a cinematographer, and is still going strong. Mr. Fraker has earned five Academy Award nominations for Best Cinematography, in recognition of his stellar work on the films *Looking for Mr. Goodbar* (1977), *Heaven Can Wait* (1979), *1941* (1980), *War Games* (1983) and *Murphy's Romance* (1986). He also earned an additional nomination for his contributions to the visual effects work in *1941*. His resumé also includes the classic films *Bullitt*, *Rosemary's Baby* and *Paint Your Wagon*.

Mr. Fraker joins an elite group of ASC members who have received the Lifetime Achievement Award: Stanley Cortez, Conrad Hall, Victor Kemper, Charles Lang, Phil Lathrop, Sven Nykvist, Owen Roizman, Haskell Wexler, Gordon Willis and Vilmos Zsigmond.

If you wish to place a congratulatory ad in the February 2000 issue, please contact us.

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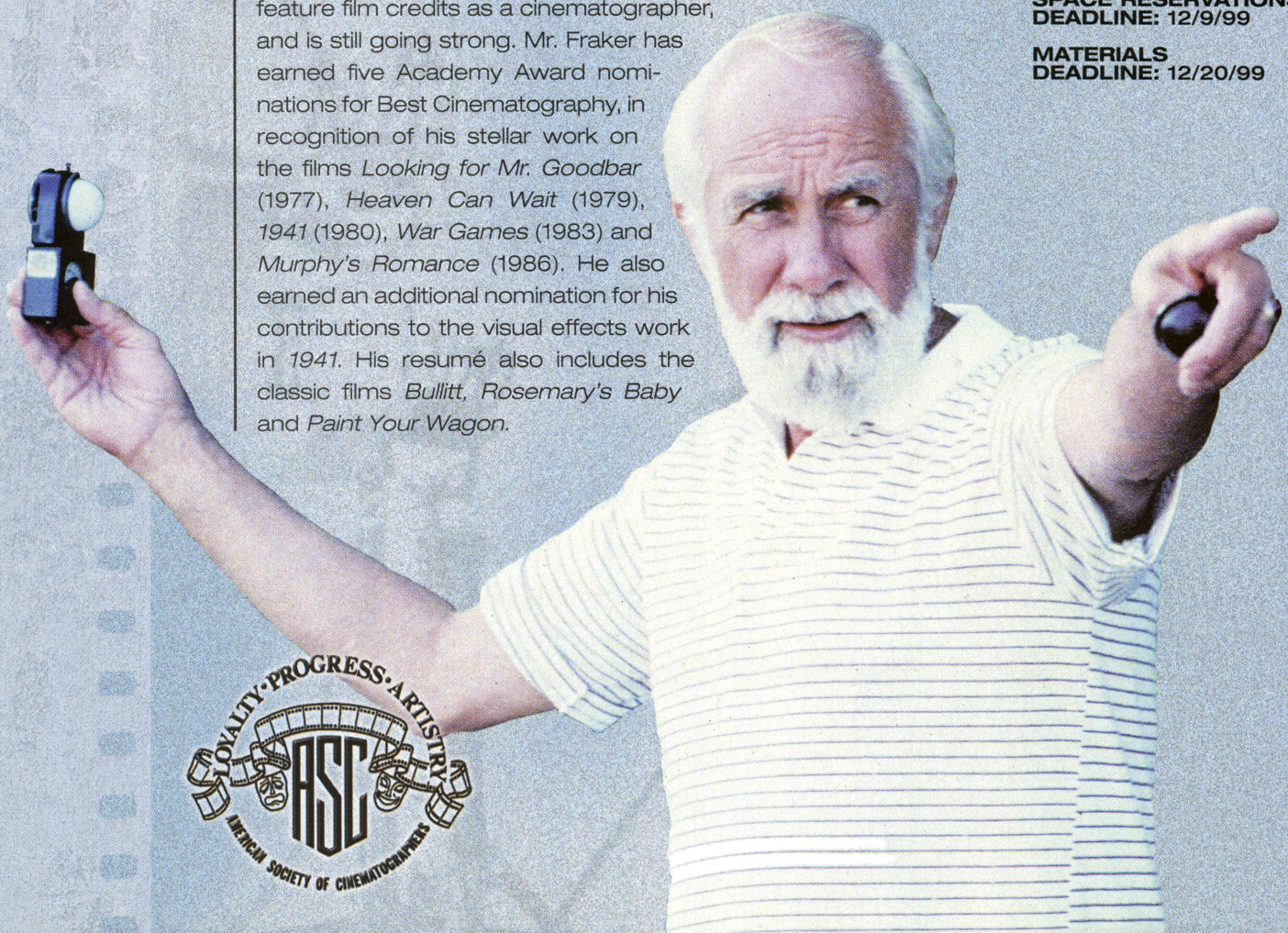
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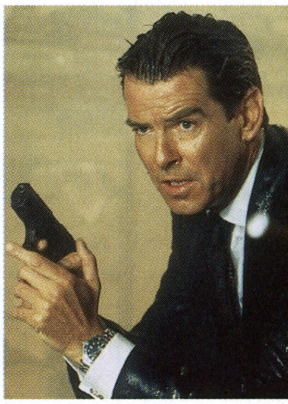
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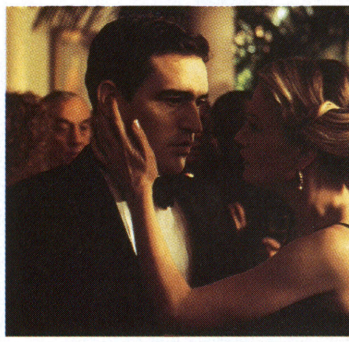


On Our Cover: Ichabod Crane (Johnny Depp) uses his head to solve some sinister crimes in *Sleepy Hollow*, a stylized horror story directed by Tim Burton and photographed by Emmanuel Lubezki, ASC, AMC (photo by Clive Coote, courtesy of Paramount Pictures).

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Stephanie Argy
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Jay Holben
Duncan Petrie
Ray Zone



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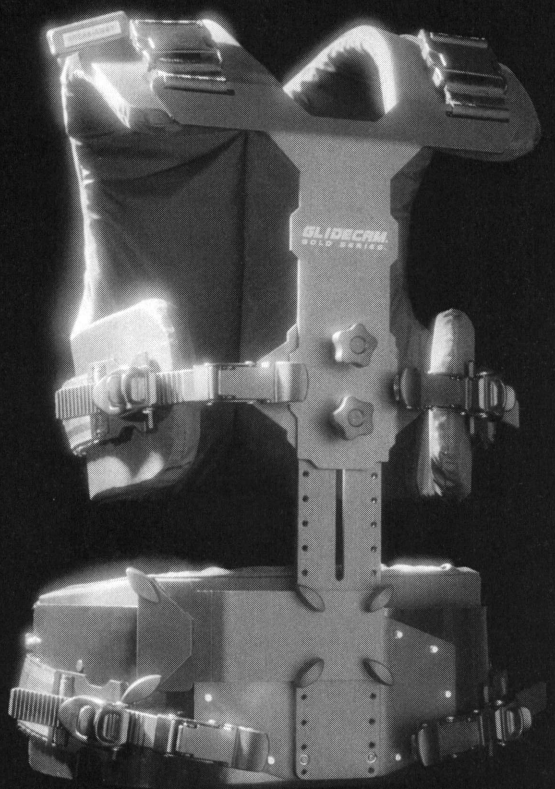
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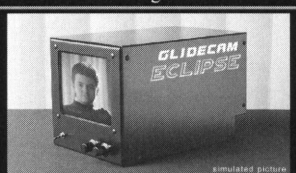
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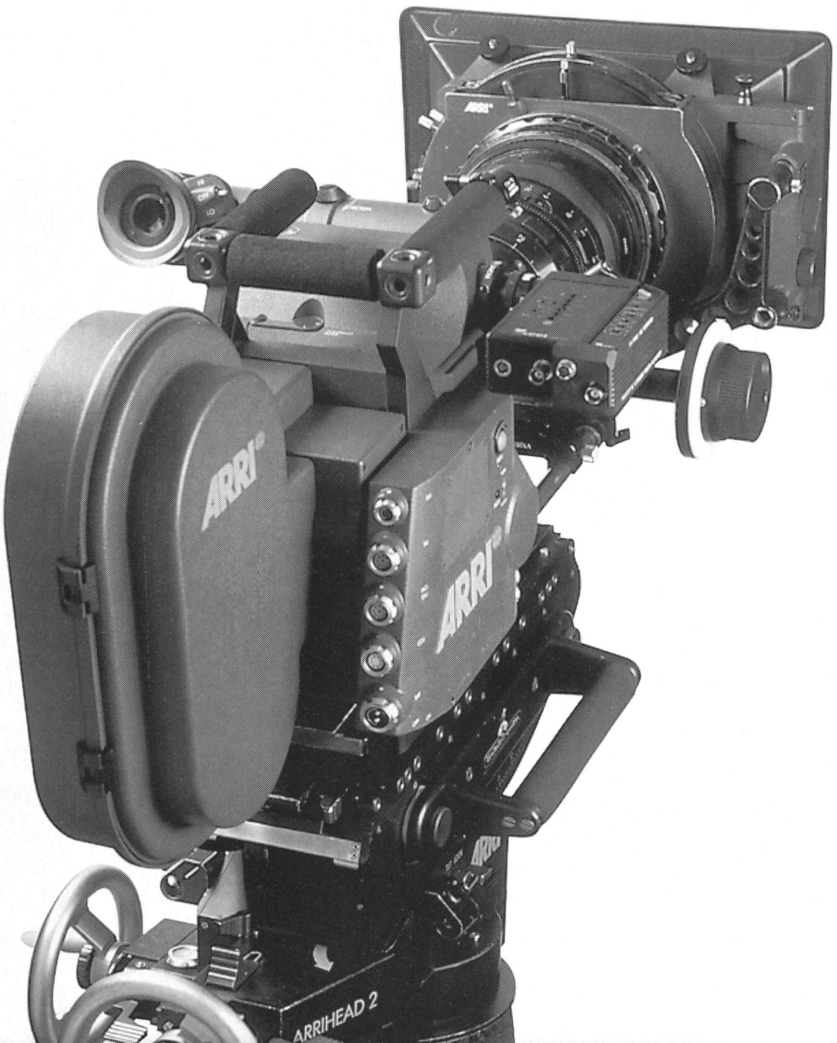
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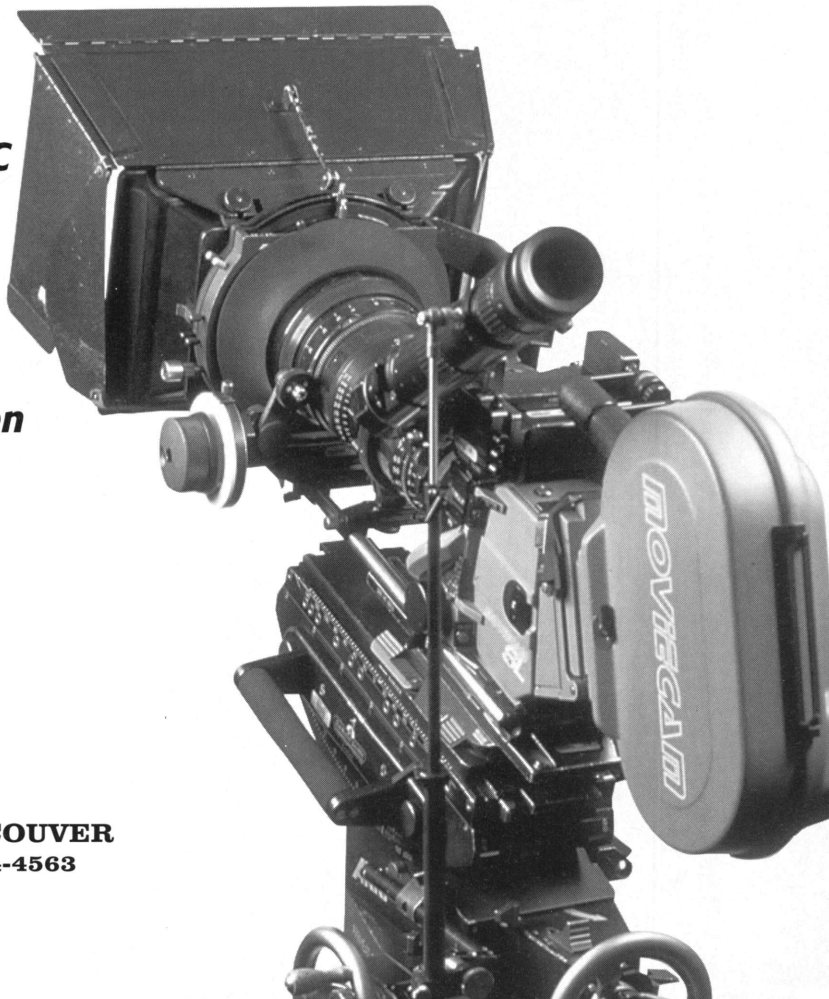
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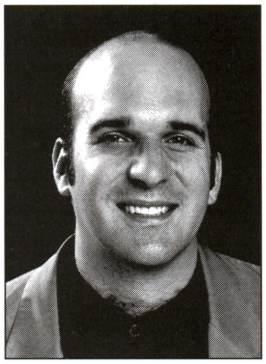
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Editor's Note



A few years ago, while perusing the dusty shelves at Jerry's Video Rerun, a cramped Hollywood strip-mall haunt that boasts a truly impressive collection of horror, fantasy and sci-fi films, I came across the 1960 chiller *Black Sunday,* directed and photographed by Mario Bava. Unable to resist either my fondness for Italian horror movies or the box's lurid tagline ("The Undead Demons of Hell Terrorize the World in an Orgy of Stark Horror!"), I forked out the rental fee and rushed home to my sofa.

I was not disappointed: *Black Sunday* had it all, including a classic plot (a witch is executed by an angry mob, only to return 100 years later with her vampire servant to do Satan's bidding), an extravagantly evil ambience (complete with creepy music and rolling banks of fog) and a bewitching lead actress (raven-haired icon Barbara Steele, in her first starring role). Having spent many a childhood Saturday glued to TV shows like *Night Gallery* and *Creature Double Feature,* I found myself in horror-movie heaven.

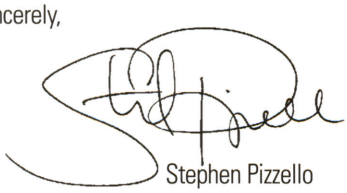
Apparently, I'm not alone in my appreciation of *Black Sunday.* Director Tim Burton says he first saw the picture at a weekend film festival, where the late hour and his lack of sleep lent the images an extra dose of demonic power. The filmmaker recalled that experience while prepping *Sleepy Hollow* (see interview on page 54), and asked rising cinematographer Emmanuel Lubezki, ASC, AMC ("Galloping Ghost," page 38), to help him give modern audiences a taste of good old-fashioned terror.

Not to be outdone, expert cameraman Janusz Kaminski, ASC is also determined to raise some gooseflesh with his directorial debut, *Lost Souls* ("The Devil Made Flesh," page 74). This supernatural tale of Satanic possession, shot by Mauro Fiore, benefits from an eerie psychological undercurrent designed to make audiences squirm in their seats.

Equally fantastic, but far less frightening, is the new James Bond epic *The World Is Not Enough* ("Paging 007," page 60), directed by Michael Apted and photographed by Adrian Biddle, BSC. In tackling their first Bond movie, the filmmakers sought to streamline the superagent for a new millennium, while staying true to the franchise's roots.

The English spirit of adventure is also evident in Duncan Petrie's article "A Brief History of British Cinematography" (page 86), which reviews key U.K cameramen and their contributions to world cinema.

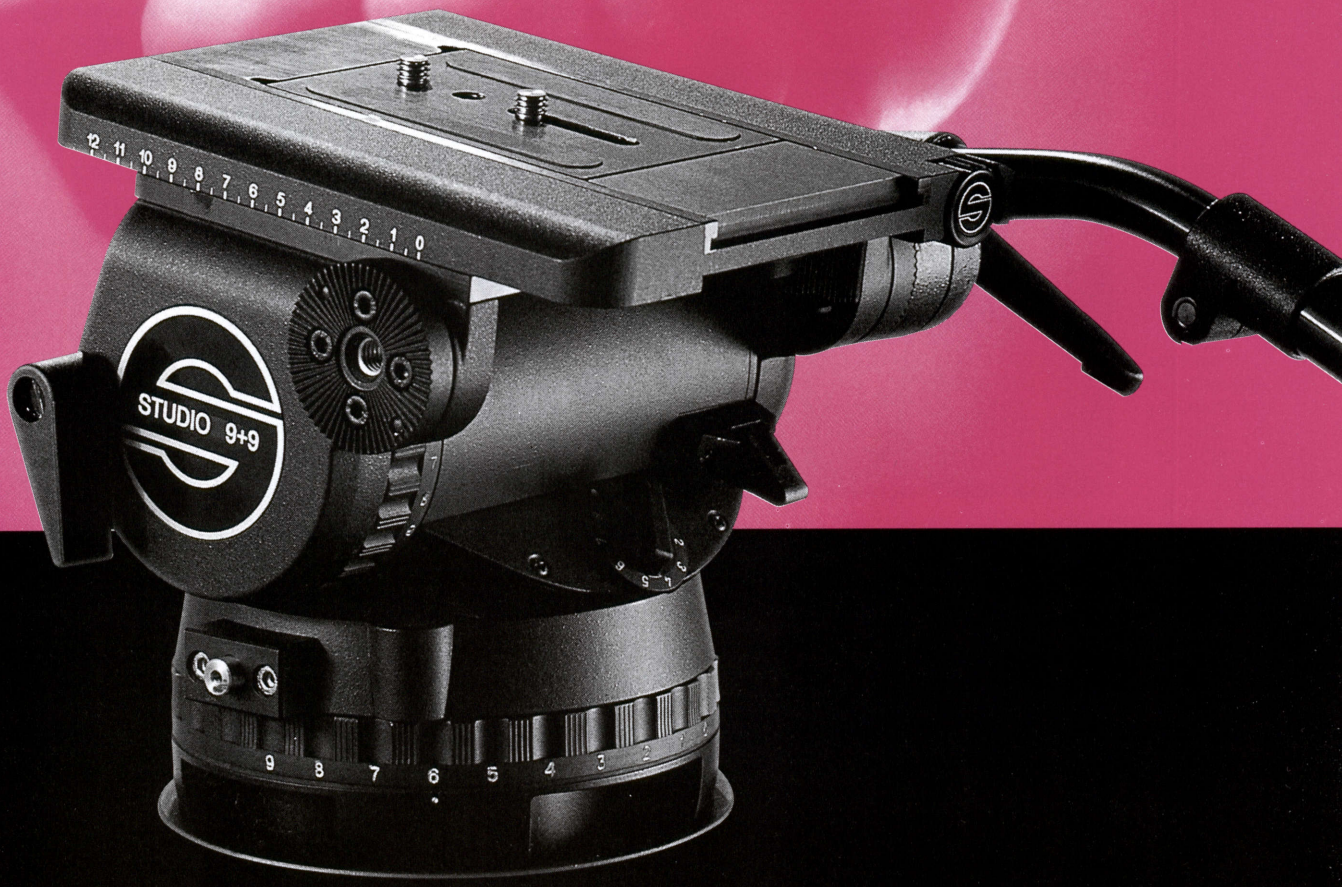
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Global Village

A Chinese Epic — On a Less-Than-Epic Budget

by Patricia Thomson

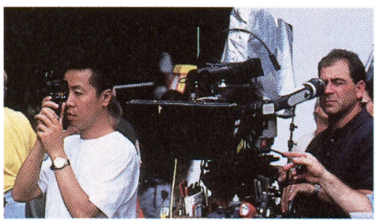




The Emperor and the Assassin **offers some spectacular settings and sequences, despite the production's relatively limited financial resources. Director of photography Zhao Fei (bottom photo, at left) was involved in all of the film's key design decisions.**

China's first Emperor, Ying Zheng, did everything in a big way. He built the Great Wall, buried 7,000 terra-cotta soldiers to protect him in the afterlife, and created the nation of China by unifying seven rival kingdoms in 221 A.D. — killing legions in the process.

Bearing this history in mind, it's not surprising that director Chen Kaige's new film about this key figure in Chinese history is equally big and ambitious. *The Emperor and the Assassin* is a sweeping epic made on a relatively modest budget of $10 million — which still makes it one of the most expensive films ever shot in China. The story focuses on a love triangle between the Emperor (Li Xuejian), his longtime paramour (Gong Li), and the professional assassin (Zhang Fengyi) hired to kill him, setting the trio's personal saga against a vast historical backdrop of warring nations.



This approach required not only the usual accoutrements of epic battle films — thousands of extras, horses, chariots, and stuntmen — but also entailed the reconstruction of ancient China's cities and palaces. With painstaking historical accuracy, the Emperor's palace (a complex once covering 30 square miles) was rebuilt from the ground up in the eastern province of Zhenjiang. The production was financed by a wealthy businessman, who has since turned the Imperial palace into a theme park. If one counts this and other similar donations, says Chen, the film's price tag would climb to $30 million. But despite its American-sized budget, *The Emperor and the Assassin* still faced limitations that are part and parcel of shooting in China.

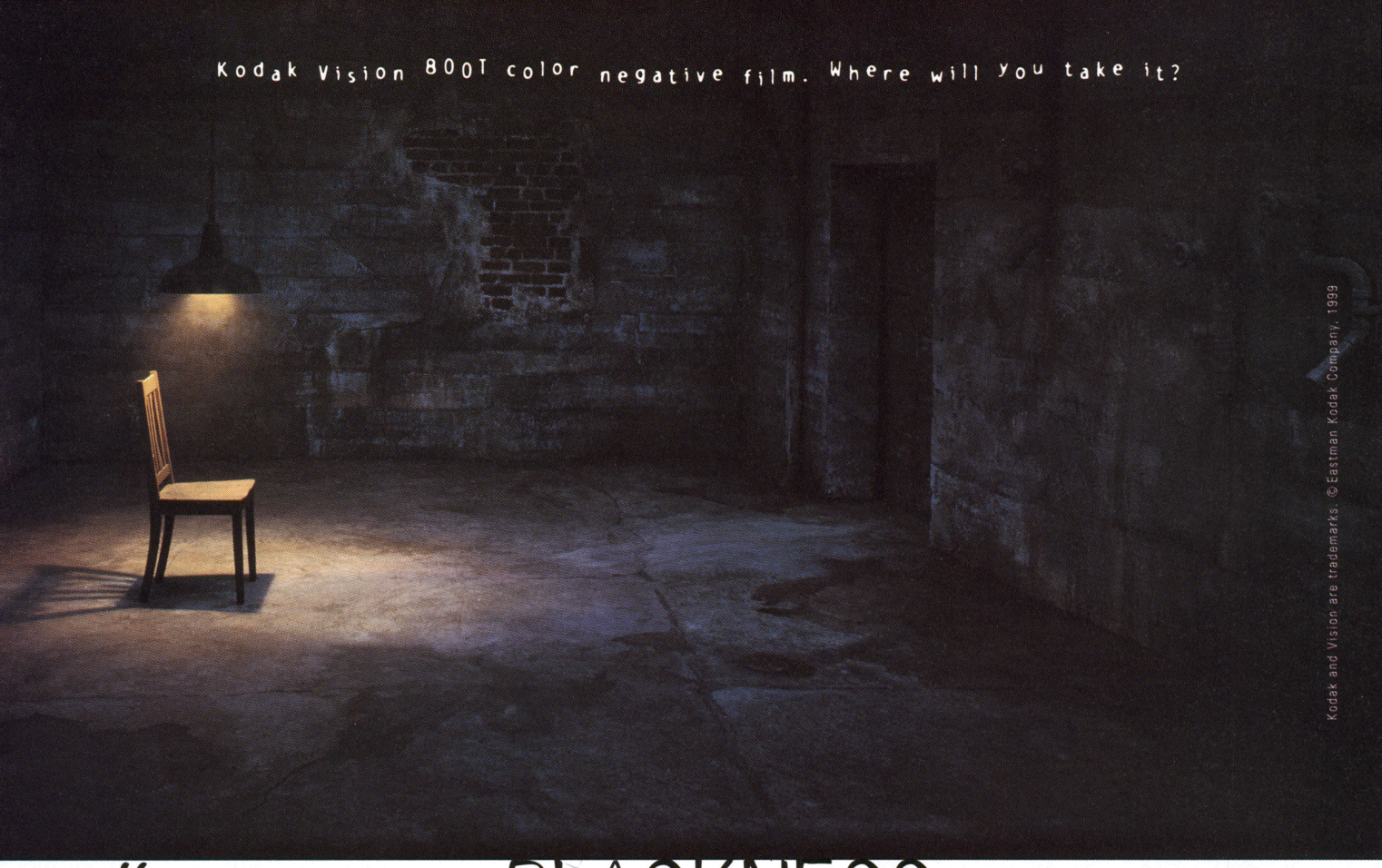
First was the choice of format. "We thought about shooting in anamorphic, but didn't because of the budget," says Zhao Fei, the film's 38-year-old director of photography (speaking through a translator). He explains that anamorphic is much less common — and therefore more costly — in China than the U.S., which led the filmmakers to shoot *Emperor* in the spherical 1.85:1 format.

Zhao was tapped to command the photography department when Gu Changwei, ASC — Chen's cinematographer on *Farewell My Concubine* — became unavailable. A graduate of the director's alma mater, the Beijing Film Academy, Zhao was hired on the basis of his work on Zhang Yimou's *Raise the Red Lantern*. "He's very intelligent and knows exactly what he wants to do," Chen says of the soft-spoken cinematographer. "I admire him. He has a special sense, especially in terms of how to set lights."

Faced with the task of lighting the immense interiors of royal palaces, Zhao began planning from the project's outset. "We spent half a year in preproduction," the cameraman says. "During that time, I was not only concerned about my aspect of the shoot — I was also involved in the discussions about props, set design, and

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Kodak Vision 800T color negative film. Where will you take it?



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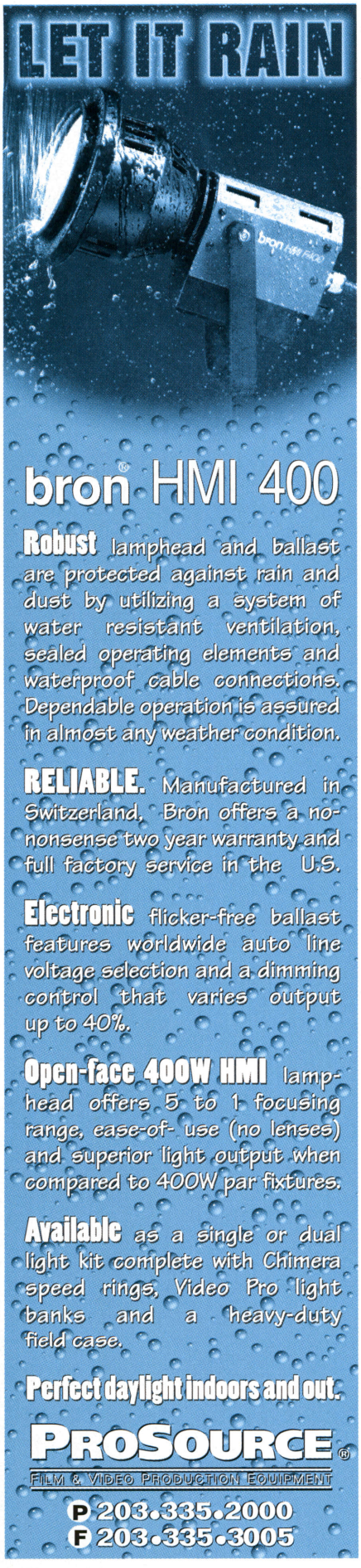
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Jens Fischer
Feature film cinematographer, recently completed *Wagen Ut (Way Out)*

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costumes."

Most of the film takes place within the throne rooms, war chambers, and boudoirs where the characters hatch their plots and shift their allegiances. Working with an Arriflex 535, Zhao shot the interiors using Kodak's Vision 200T stock, switching to Vision 500T in the more enormous rooms and EXR 5245 for exterior work. Many of the interior scenes are characterized by a rich amber palette, which is softened by a haze of smoke from burning incense and ubiquitous candles. This golden glow was accomplished more through the careful selection of fabrics and set dressing than through filters or gels, which Zhao largely shunned. "I spent hours with the costume designer trying different color schemes and fabrics," he says. "I cannot achieve that kind of color with filters, so I rarely used them. I only used diffusion [filters]."

Sometimes Zhao's approach to lighting was simplicity itself, as when he purchased a few rolls of thin white paper to cover the Emperor's bedroom windows. "We needed a soft feeling," he explains, nothing that the crew placed tungsten lights outside the windows before covering the glass panes with paper. "It was the same kind of paper I used to do Chinese paintings on when I was a kid."

Other situations required more drastic measures. Despite all of the preplanning, some of the sets just didn't work. The throne room needed so much additional light for the climactic assassination scene that the best solution was to tear down the roof and replace it with glass. "My gaffer calculated how much light he would need and the producer was *shocked*," says Zhao. "If we had done it according to his calculations, we would have had to move all the lights from Shanghai and Zhenjiang to that one location. It was impossible, both technically and financially."

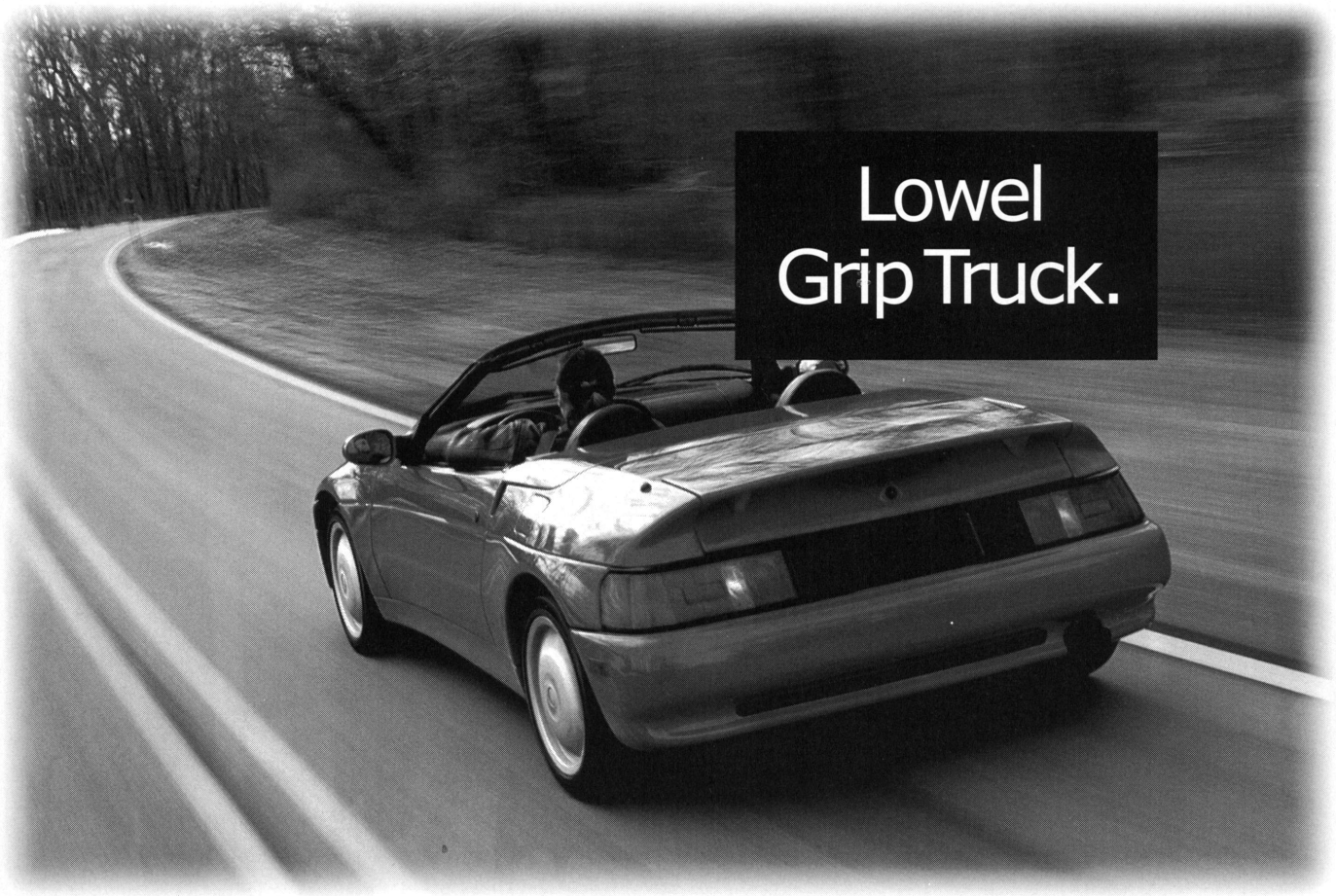
Zhao controlled the amount of daylight by laying an enormous cloth mask over the glass, then supplemented that approach by placing a host of 12K HMIs behind pillars. "My next big challenge became hiding them all," he says.

The ancient Chinese architecture didn't simply cause problems, though; it also created the film's aesthetic, which favored centralized compositions in both intimate and grandiose scenes. "Chinese architecture in the olden days was constructed with such aesthetics in mind, with an emphasis on symmetrical balance," explains Zhao. "When you're shooting a film and looking for the best angle, it's probably the symmetrical one. That was also the best way to convey the elegance and general milieu of the palace."

In contrast, the battle scenes are a flurry of motion, with the camera placed in the center of action — on the heels of galloping horses, underneath thundering chariots, or soaring above the clashing throngs. To find a suitable location, the production had to schlep all the way to the Bashan plateau near Inner Mongolia. "Although China is big, it's full of people," explains Zhao. "You need to go to Mongolia to get that kind of sparsely populated land."

Unfortunately, this also meant that no special filming gear was within easy reach. For the opening battle scene, Zhao had neither cranes nor tracking equipment. Instead, his crew built a homemade iron crane, which they attached to the front of a jeep. "We let the air out of the tires for a smooth ride," the cameraman says with a smile of satisfaction. For tracking shots across vast battle scenes, they simply opened the rear door of the jeep, positioned the camera, and drove through the action. "Our equipment was limited and very simple," Zhao admits. Nonetheless, the filmmakers managed to pull off a story of epic proportions.

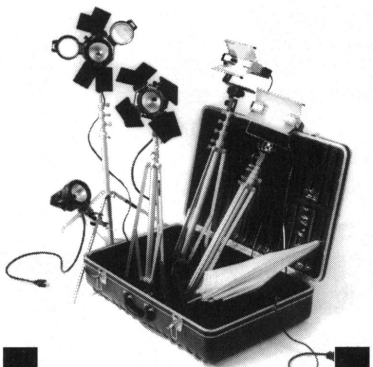
After this experience, says Zhao, "I figured I could handle any problem." He subsequently embarked on the multi-faceted challenge of shooting Woody Allen's latest two films: *Sweet and Lowdown* and the director's still-untitled Spring 2000 project. With these projects expanding his resumé, plus an agent at ICM, the versatile Zhao appears ready to take on the world — in his own soft-spoken way, of course. ■



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Production Slate

compiled by David E. Williams

An Authentic Fairy Tale
by Bob Fisher

Anna and the King is the third film based on Margaret Landon's 1944 novel, which was inspired by the true story of Anna Harriette Leonowens. Born in England in 1834, she moved to Asia at the age of 15 and subsequently married Thomas Leonowens. After her husband died, Leonowens was employed as a governess and tutor by King Mongkut of Siam (now Thailand) from 1862-'67. The monarch had 58 children and numerous wives.



King Mongkut (Chow Yun-Fat) and his teacher, Anna Harriette Leonowens (Jodie Foster), share the dance floor in *Anna and the King*.

In 1870, Leonowens wrote a book about her experiences, called *The English Governess at the Siamese Court,* which formed the basis of Landon's novel and the original 1946 film, both of which were titled *Anna and the King of Siam.* Photographed in black-and-white, the film featured Rex Harrison as King Mongkut and Irene Dunne as Leonowens. The film earned two Oscars, including one for cinematographer Arthur Miller, ASC.

In 1956, the tale was retold in *The King and I,* a motion picture based on a Broadway play of the same title. The film featured the music of Rodgers & Hammerstein, as well as Yul Brynner and Deborah Kerr in the starring roles. Still banned in Thailand today, the epic production was framed in the unique CinemaScope 55 format by Leon Shamroy, ASC, who received an Academy Award nomination for his work.

The latest retelling of this classic story, *Anna and the King,* was produced by Fox 2000 Pictures, and features Hong Kong superstar Chow Yun-Fat as King Mongkut, and Oscar-winner Jodie Foster as Leonowens. Caleb Deschanel, ASC photographed the picture for director Andy Tennant, whose credits include *Fools Rush In* and *Ever After.*

Deschanel has earned Oscar nominations for *The Right Stuff, The Natural* and *Fly Away Home.* His other credits include *The Black Stallion, Being There, Hope Floats* and, most recently, *Message in a Bottle.* "*Anna and the King* is a wonderful story about unrequited love," the cameraman offers, "but you have to read between the lines and fill in meanings that aren't expressed in the dialogue."

The company planned to shoot *Anna and the King* in Thailand, where many of the exteriors of Mongkut's 18th-century palace are still intact. That concept went awry when the Thai government rejected three versions of the script. The production therefore shifted to Malaysia, where sets were designed to emulate seven acres of the opulent palace, including interiors and exteriors.

Production designer Luciana Arrighi supervised a crew of some 1,300 construction workers, artists, carpenters and sculptors from various countries. A descendant of King Mongkut served as technical advisor, and taught the set construction crew how to polish the wooden floors and nearly 4,000 square feet of marble with coconut oil and banana leaves to make them more luxuriant. The walls were graced with mirrored mosaics, and the decor included nearly $500,000 worth of Thai plants, 500 gilded Buddhist statues and other antiques.

The film's settings were extravagant, and the scale was immense. With only five weeks to prepare, Deschanel had to shoot scenes with as many as 1,200 extras, hundreds of horses, 40 elephants and a man-eating crocodile. The cinematographer assembled his crew mainly from England, South Africa and Australia, and put together camera and lighting packages imported from other countries. "I immersed myself in [period] photographs and paintings, and found elements that I could use in composition — colors and shapes," Deschanel says of his prep work. "It was partially instinct and partially common sense. I would have loved to have had a lot more time for experimentation. Sometimes it felt as if we were just trying to survive, but I suspect that you can often do your best work in that situation, because your instincts take over.

"It's difficult to imagine how to deal with a picture of this scope until you are actually doing it," he continues. "You have to see how the actors respond to the sets and to each other. No matter

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Above: Anna takes a nocturnal stroll though the moonlit palace grounds. The color of the film's nighttime scenes were determined by the dominant sources (generally moonlight or fire), resulting in either cool blues or warm tones (left).

how much planning you do, everything goes out the window when you're faced with the reality of shooting scenes with hundreds of extras, elephants and other animals."

Both of the story's central characters are strong-willed and intelligent, and each has powerful ideas about the way life should be lived. The functionaries of the king (not to mention Mongkut himself) cannot understand how any outsider, let alone a woman, would dare defy their ruler's authority. This standoff sets the stage for a classic conflict between Western and Eastern ideals.

By design, the story plays through Leonowens's eyes, revealing her feelings about the injustices she perceives amidst the grandeur. However, the king also teaches his instructor some lessons. "Westerners tend to think that everyone shares our values, but that isn't true," Deschanel says. "When Siamese people approached their king during the 1860s, they crawled and bowed. That's unthinkable to Westerners, but it was everyday life for them."

Deschanel thinks the casting of the main characters was brilliant. "Chow Yun-Fat is incredibly handsome and has such a wonderful presence that it didn't take much to present him as the character in the book," he offers. "We chose angles and compositions that would emphasize the power of his character, but the camerawork is never exaggerated, and hopefully it will be invisible to the audience."

Deschanel says that Foster captures the essence of Leonowens's strong and defiant personality in her body language, facial expressions and eyes. "You can see the relationship and affection developing between the two central characters, even though they are always surrounded by many people," he states.

Shooting *Anna and the King* was no walk in the tropical park for Deschanel, partially because Malaysia is about four degrees south of the equator. The filmmakers shot from February through June, and the sun was directly overhead from 10 a.m. to 3 p.m. "The direct sunlight was harsh — it was so hot and humid that makeup melted, and the actors were constantly changing their wardrobe," he laments.

Deschanel tried to avoid shooting exteriors with the sun directly overhead, but some sets were still being built when production began. That gave the company less flexibility, and also caused delays that required the rescheduling of some shots.

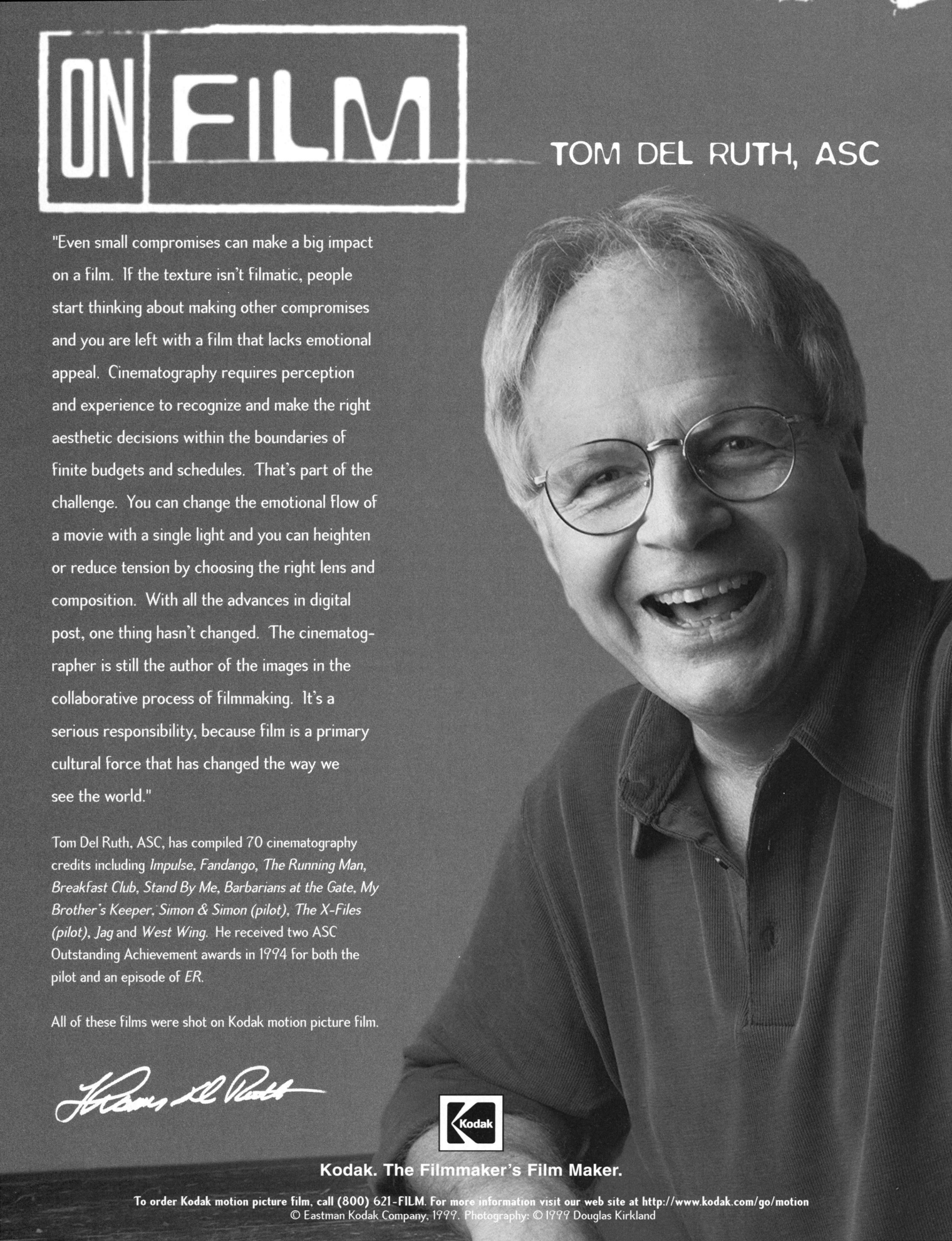
Deschanel and Tennant agreed that the the story and settings of *Anna and the King* required a sense of sweeping scope, and they decided early on to shoot in 35mm anamorphic. It wasn't an automatic decision, though, because Deschanel had to light huge areas that were mainly motivated by lamps and candlelight. He needed sufficient exposure to pull stops of T3.5 and 4 for realistic depth of field.

For *Message in a Bottle*, Deschanel had tested and matched the imaging characteristics of 90 E-series Panaflex anamorphic lenses, from which he selected seven. Panavision agreed to provide the same set of lenses (generally ranging from 50 to 180mm) for *Anna and the King*, thus eliminating any potential variance in color and quality. The E-series lenses are not quite as sharp as newer Primo lenses, but they provided the cinematographer with the look he



ON FILM

TOM DEL RUTH, ASC



"Even small compromises can make a big impact on a film. If the texture isn't filmatic, people start thinking about making other compromises and you are left with a film that lacks emotional appeal. Cinematography requires perception and experience to recognize and make the right aesthetic decisions within the boundaries of finite budgets and schedules. That's part of the challenge. You can change the emotional flow of a movie with a single light and you can heighten or reduce tension by choosing the right lens and composition. With all the advances in digital post, one thing hasn't changed. The cinematographer is still the author of the images in the collaborative process of filmmaking. It's a serious responsibility, because film is a primary cultural force that has changed the way we see the world."

Tom Del Ruth, ASC, has compiled 70 cinematography credits including *Impulse*, *Fandango*, *The Running Man*, *Breakfast Club*, *Stand By Me*, *Barbarians at the Gate*, *My Brother's Keeper*, *Simon & Simon (pilot)*, *The X-Files (pilot)*, *Jag* and *West Wing*. He received two ASC Outstanding Achievement awards in 1994 for both the pilot and an episode of *ER*.

All of these films were shot on Kodak motion picture film.

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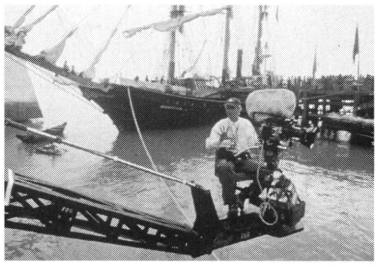
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desired.

Deschanel generally covered scenes with two Panaflex cameras, simultaneously recording wide and tight coverage, usually from the same angle. "You always make some compromises when you light for multiple cameras," he says. "That's especially true when you're dealing with intimate close-ups in dialogue scenes, but we needed the coverage."

Technicolor in Los Angeles handled front-end lab work for the show. There were labs closer to the film's locations, but editor Roger Bondelli was working in Los Angeles, so it made sense to process the negative there. The downside was that Deschanel didn't get to see film dailies until he was four to five weeks deep into production (due to a delay in the completion of a screening room on location). "I wouldn't recommend that approach," he emphasizes. "It is important to see film dailies projected on a good screen. I knew we were in focus — the lab and editor could tell me that much. But there are subtle details on the film that I wanted to see and could not."





Cameraman Caleb Deschanel, ASC (top) relied on a series of cranes to allow him to constantly track through the film's environs, suggesting the "searching" perspective of the story's central character, Anna Leonownes.



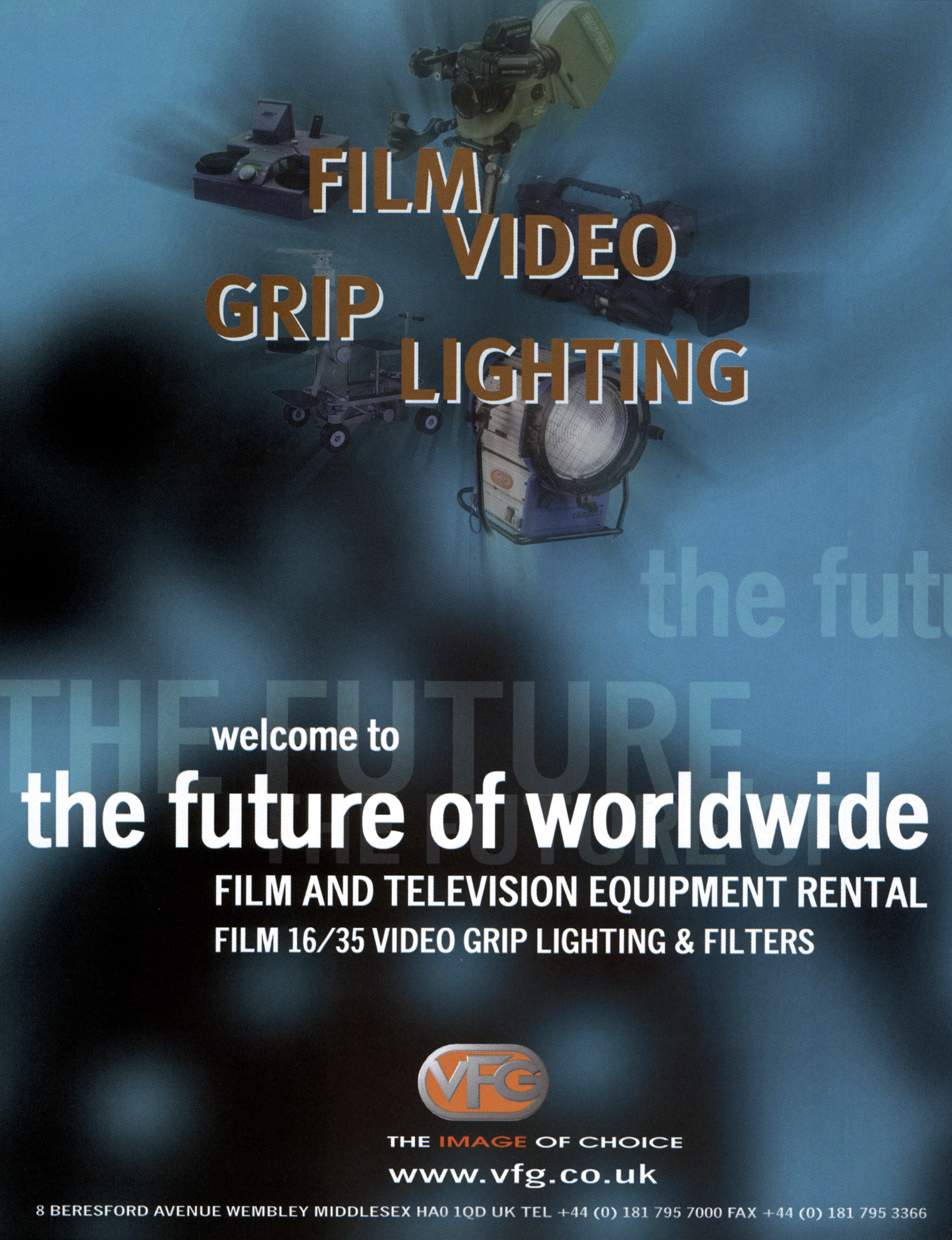
For daylight exteriors, Deschanel relied primarily on Kodak Vision 320T, a lower contrast film that records more shadow detail, to compensate a bit for the harsh overhead sunlight. Interiors were recorded with a mix of Kodak Vision 500T and 320T, depending on the stop needed for depth, and the extent to which Deschanel could control the lighting.

Green, the jungle's most dominant color, was used freely as the film's primary color, and red and yellow accents were supplied by costume designer Jenny Beaven, art director John Ralph and set decorator Ian Whittaker. "The colors bounce off the walls and floors on different sets, and you can see them reflected in skin tones and on shiny surfaces," Deschanel notes.

The cinematographer says that his lighting load was lightened considerably by gaffer Larry Shane. "Larry wouldn't let himself be deterred or bothered by anything," he says. "Because the spaces were so big, we didn't do a lot of fading in and out with lights, except for some smaller shots in areas lit by people carrying candles or lanterns."

Shane worked with the prop department to develop electrical lanterns that convincingly imitated the warm, flickering quality of fire and candlelight. "We were just creating the illusion of source light on those big sets at night," Deschanel says. "It must have been pretty dark in [Mongkut's] palace during the 1860s. The windows were very small, so there was very little direct light. We used our windows to bring some light into the sets, though it was mainly for dramatic effect." To illuminate scenes pertaining to Leonowens's perspective, lights were also hidden in niches that were out of sight and often behind the cameras.

There are subtle changes in the way Deschanel lit Foster thoughout the


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Shooting on location in Malaysia was no picnic for Deschanel, particularly when lighting expansive nighttime exteriors to T3.5 to T4 for realistic depth of field, using illumination motivated by lamps or candles.

film. "There's a certain severity in the beginning, and she becomes a little bit softer toward the end," he offers.

Deschanel's cameras were almost always either tracking from dollies or cranes to reflect Leonowens's viewpoint as she explored and discovered new things. "Sometimes we'd start with a relatively small shot, pan around and then reveal that she's in a massive complex," Deschanel details. "For the scene in which she explores the palace grounds for the first time, we used an Akela crane. We wanted the audience to experience the opulence and incredible grandeur of the palace."

Deschanel used intimate close-ups of Leonowens and Mongkut to reveal subtle facial expressions that provide crucial emotional subtext. "Basically, these two people think differently," the cameraman explains. "You can see how they respond to what they see and hear in their expressions and eyes. Sometimes that's the only way you can truly tell how they feel. You can hear Anna holding her ground in a discussion with the king, but you have to see the determination in her face and eyes."

Anna and the King did require some digital effects work to fully present the Siam of the 1860s (including extensions of sets where roofs weren't constructed because of limits in time and budget, and some enhancements to battle sequences), but the onscreen vistas are primarily the result of Deschanel's photography.

"Andy and I worked well together," the cameraman concludes. "He had his own ideas, but he was open to hearing mine. The environment and grand scale of the settings make the story an incredible spectacle, but I think the film's real strengths are the characters and actors. Great actors have an ability to reveal themselves to the audience; you can see who they are under the surface. They make you care about and empathize with their characters. Both Jody Foster and Chow Yun-Fat have that ability. By the end of the picture, you feel as if you know them, and you approve of their friendship."

A Dramatic Quest
by Mark Dillon

At the 1999 Toronto International Film Festival (held from Sept. 9-18), director Atom Egoyan and cinematographer Paul Sarossy, CSC became hometown heroes with their

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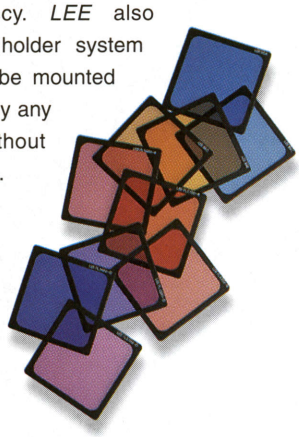
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In *Felicia's Journey*, a troubled young girl (Elaine Cassidy, in the title role) seeks the missing father of her child, with the aid of Hilditch (Bob Hoskins), an equally disturbed soul.

fifth feature collaboration, *Felicia's Journey*, which made its North American debut at the prestigious Opening Night Gala. The pair enjoyed the same honor two years earlier with *The Sweet Hereafter* (see Production Slate, *AC* Dec. '97), which earned Egoyan Academy Award nominations for Best Director and Best Screenplay Adaptation, and brought international attention to the Canadian filmmakers. Sarossy subsequently shot Paul Schrader's *Affliction* (Production Slate, *AC* Nov. '98), while Egoyan was approached by Mel Gibson's Icon Productions to make *Felicia's Journey*, an adaptation of the 1994 Whitbread Award-winning novel by Irish author William Trevor.

The Canadian/British co-production, also financed by Canada's Alliance Atlantis Pictures, tells the tale of Felicia (Elaine Cassidy), a naive, small-town Irish girl who is seduced by Johnny (Peter McDonald), a young cad who heads to England to join the British army without leaving so much as a forwarding address. After discovering that she's pregnant, Felicia ventures to Birmingham in search of her beloved, but cannot track him down. By chance, she meets up with Hilditch (Bob Hoskins), a middle-aged catering manager for a large factory. The seemingly docile Hilditch aids Felicia on her quest, but we soon discover that he has an unhealthy attachment to his late mother (Arsinee Khanjian) and harbors a dark secret.

Although the budget of *Felicia's Journey* (approximately $10 million) pushed indie filmmakers Egoyan and Sarossy closer to the mainstream, the film is not a departure from the style of their previous work, but rather a mature extension of that style. Author Trevor's source material allowed Egoyan to practice his favored narrative technique — gradually revealing characters' true natures through flashbacks — and the British Isles locations were ideally suited to the filmmaker's preferred format, anamorphic widescreen (which he'd previously employed in *The Adjuster* and *The Sweet Hereafter*). "Anamorphic is an ideal format," Egoyan maintains. "It allows you to get a really richly saturated negative — you're making absolute full use of the negative."

While the director was careful not to make clichéd use of the natural scenery, it's evident that he was somewhat bewitched by Ireland's rolling green hills, which are viewed mostly in scenes between Felicia and her disapproving father (Gerard McSorley). Sarossy recalls telling his director on

Photos courtesy of Artisan Entertainment and Paul Sarossy, CSC.

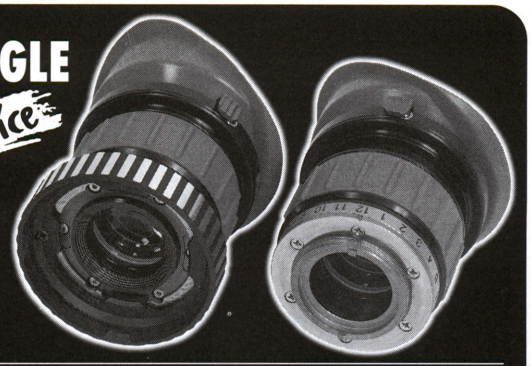
several occasions, "The film can only be so long — should the camera be lingering so much on the landscape?"

Serving as his own camera operator, Sarossy shot the film with Panaflex Platinum cameras, using Panavision's new close-focus Primo anamorphic lenses. He explains, "With the older anamorphic lenses, the minimum focus tended to be around four or five feet, and if you're shooting a lot on location, particularly in smaller places, that can be quite a disadvantage." He generally employed prime lenses, although he would occasionally use the 11:1 Primo zoom in the studio for dolly shots. Sarossy used Kodak's Vision 500T 5279 stock for interiors (shot primarily in London's famed Shepperton Studios), generally shooting with an aperture of T5.6. For daytime exteriors, he employed Kodak's EXR 5248.

When it came to selecting focal lengths, the filmmakers sought to strike a balance between the storytelling advantages of widescreen — e.g., creating a background drama that would add dimension to the foreground action — and the beautifying properties of long lenses, which isolates an actor's face by throwing the rest of the frame out of focus. Since the film focuses primarily upon the interaction between Felicia and Hilditch, much of the action is covered in single shots of the actors Cassidy and Hoskins. Sarossy submits, "We wanted to populate the empty part of the frame with pertinent information. Whenever Hilditch is in the frame within his house, you can always see a picture, sculpture, or artifact that says something about his character." One example is a practical lamp that's shaped like a sailboat to emphasize Hilditch's inexorable connection to his childhood.

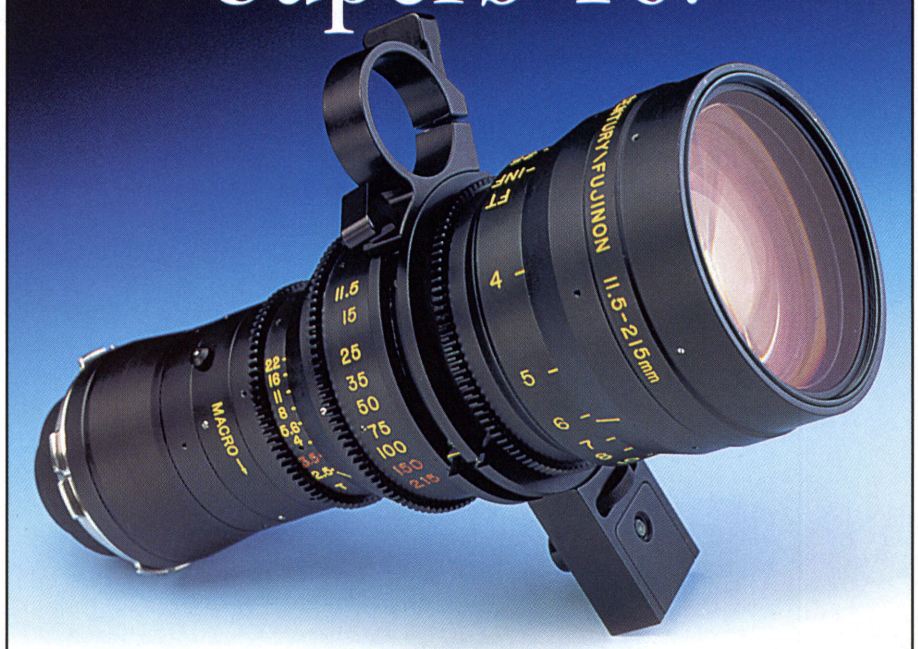
Shooting Hoskins' close-ups with wider lenses — mostly in the 40mm to 75mm range — allowed the filmmakers to maximize the frame, while visually amplifying the ugliness that becomes apparent in his character. "It was less flattering for him," the cameraman concedes. "A wider focal length makes a face more round and bulbous — it's a

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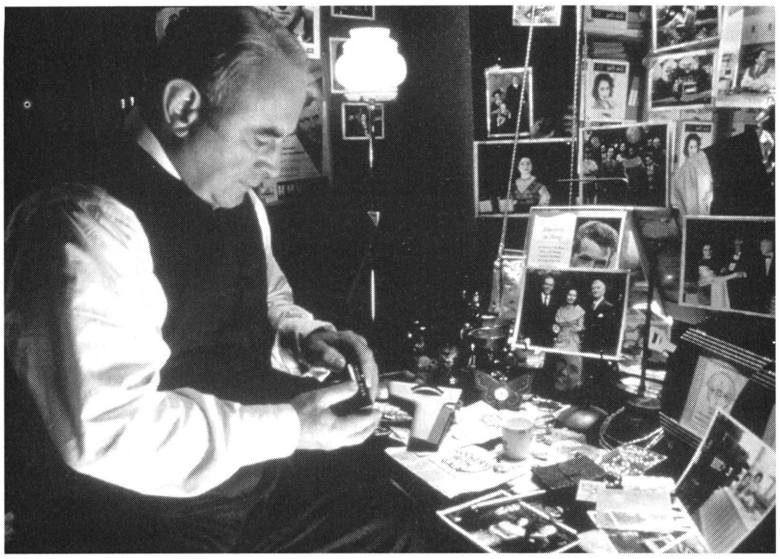
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Right: To suggest Hilditch's dark side, director Atom Egoyan and cameraman Paul Sarossy, CSC (bottom, left to right) carefully composed shots of this character to feature artifacts from his troubled childhood.

little bit grotesque. When the camera is on Hilditch, its viewpoint is a bit more clinical and objective." For Cassidy's close-ups, Egoyan and Sarossy took the opposite tack, electing to use kinder long lenses. "It felt right in terms of young Felicia," Sarossy indicates. "She's an innocent in this hostile environment, and we wanted the camera to be her one ally."

Ireland's traditionally volatile weather forced Egoyan to make some quick shooting decisions. A case in point is a flashback scene in which Johnny, about to board a bus for the Midlands, ignores Felicia in favor of a buddy who happens by on a motorcycle. Egoyan recounts that each day of exterior shooting began with the query, "Am I going to shoot for cloud or sun?" For the scene in question, he wanted to capture a solitary cloud inching perilously toward the sun, a goal that required both patience and precision: "We had to wait for that moment when the cloud would block the sun, knowing that we would just have a minute to shoot — and that if we didn't get the shot, we'd have to wait another hour." In scenes with more than two characters, Egoyan could maintain lighting continuity by shooting the entire sequence in a polished master shot — unlike some directors, who use a master merely as a blueprint for close-ups. While shooting at the bus stop, he would have the crew block out the reemerging sun with a full silk if he wanted to move in for a close-up.



In Sarossy's estimation, the islands' turbulent climate actually helped the production. "Since we were shooting in mid- to late autumn, we often got very stunning cloud formations," he recalls. "It definitely added tremendous visual drama." He frequently captured shots of Felicia wandering through Birmingham's industrial parks from low angles, making the factory structures seem foreboding, especially in contrast to Felicia's idyllic hometown. The low angles also brought much of the sky into the frame. Since the weather was nearly always overcast, Sarossy could use grad filters to bring out detail in the clouds.

Like Egoyan and Sarossy's previous films, *Felicia's Journey* weaves together a variety of textures. For a flashback involving a young Hilditch and his mother, the filmmakers sought a look that would distinguish the sequence from the rest of the film. The scene, which detailed an incident in the family's backyard garden that would contribute to Hilditch's adult psychosis, was shot on 5239 reversal stock and then cross-processed at Deluxe Laboratories in Toronto. One of the byproducts of this approach was how intensely it saturated the colors, lending the scene the feel of an old home movie. According to Sarossy, the 5239 stock has a green bias that the filmmakers fully exploited to intensify the color of the foliage. The look of the scene also maintains the motif of Irish-green hues that permeate the entire film, from the walls in Hilditch's factory to his bathroom and antique car.

Sarossy is pleased with the flashback sequence, noting that "when that material comes onscreen, it's such a shocking contrast to the previous shot that it almost slaps you in the face. We did various tests with wardrobe, makeup, and hair to amplify the effect. We overexposed the material about 1 ¼ stops to make Arsinee's face very sepulchral and white, to the point where there's almost no detail in her skin texture. Her skin stands out in tremendous contrast to her lips and hair color, adding a degree of stylization that really makes her this very heightened character, at least in Hilditch's eyes." ➢



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Egoyan (right) believes that anamorphic widescreen is the ideal format for production.

For scenes in which Hilditch strolls through the manufacturing area of the factory where he works, Sarossy mixed industrial fluorescent practicals with daylight coming through the edifice's skylight to render a clash of color temperatures. (The cinematographer did augment the natural light with a pair of 18K HMIs and several 6Ks.) To Sarossy, this kind of dilemma, which forces a director of photography to favor one color over the other — and produces visuals rife with contrast and drama — represents the essence of the cinematographer's craft. He opines, "It's such a misfortune that today's film stock technology is doing everything it can to homogenize all of the various [light] sources, with the eventual idea that one day film will see as the eye does. When you do that, you're throwing away a great deal of the cinematographer's visual language."

Sarossy was shooting a project in Vancouver when color timer Chris Hinton at Deluxe did the first grading session, but the cameraman was happy to entrust Hinton, a longtime collaborator, with his work. He offers, "If you give too much instruction, you place a kind of imposition on the lab; they have to begin interpreting your creative choices, as opposed to doing what they do best, which is to maintain a technical standard. I think that the latter approach gives you a better chance of getting what you want."

That said, however, Sarossy reports that when the lab technicians saw the garden flashback, they tried to

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bring it back in line with the rest of the picture's footage. The cameraman recalls that Egoyan was amazed at how 'normal' the lab could make the 5239 stock look. While Sarossy credits Hinton with doing his usual excellent job on the final print, he laments the existence of "some kind of technical mandate that pervades filmmaking [and dictates that] everything has to be normal and standardized."

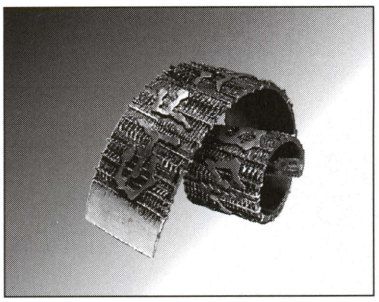
Spotlight on Cinematography

by David E. Williams

From January 14-16, the Nortel Palm Springs International Film Festival will be offering an extensive program that pays tribute to the craft and artistry of motion picture photography. Dubbed "Cinematographer's Day," this special segment of the festival was master-minded by Italian cameraman Luciano Tovoli, ASC, AIC. He adapted the idea from a similar event he'd helped to plan during the 1980s at L'Aquila University near Rome, where cinematographers and filmmakers conferred and exchanged ideas.

The first "Cinematographer's Day" was staged at the 1999 Palm Springs Festival, and focused on the cultural and scientific exchange among European and North American cinematographers. Attendees addressed various issues, such as creating a visual language, maintaining good working relationships with directors, and establishing the cinematographer as the "author" of a film's photographic scheme.

Following the success of this event, Tovoli and the Festival agreed that it should be expanded for the year 2000. A co-founder of the international IMAGO cinematography confederation, and the current president of the AIC (Association of Italian Cinematographers), the cameraman explains, "My idea was to share some of the secrets of our work with audiences, and to bring cinematographers and directors together to openly discuss their working relationship, which is something that was not being done in the United States. Of course, expanding the festival has meant more work for everyone!"



The unique "Da Vinci Award," designed by Arnaldo Pomodoro, will be bestowed upon a director of photography during the Nortel Palm Springs International Film Festival.

Photo courtesy of the Nortel Palm Springs International Film Festival.

Tovoli's ideas have realized by Dr. David B. Kaminsky, M.D., a member of the executive committee of the Palm Springs Festival's board of directors, and chairman of the Italian Film Division as liaison for the Italian Film Commission. "I met Luciano about three years ago while programming an Italian cinema seminar, and he became enamored with the Palm Springs Festival due to the quality of the Italian films we were showing," Kaminsky explains. "He thought this



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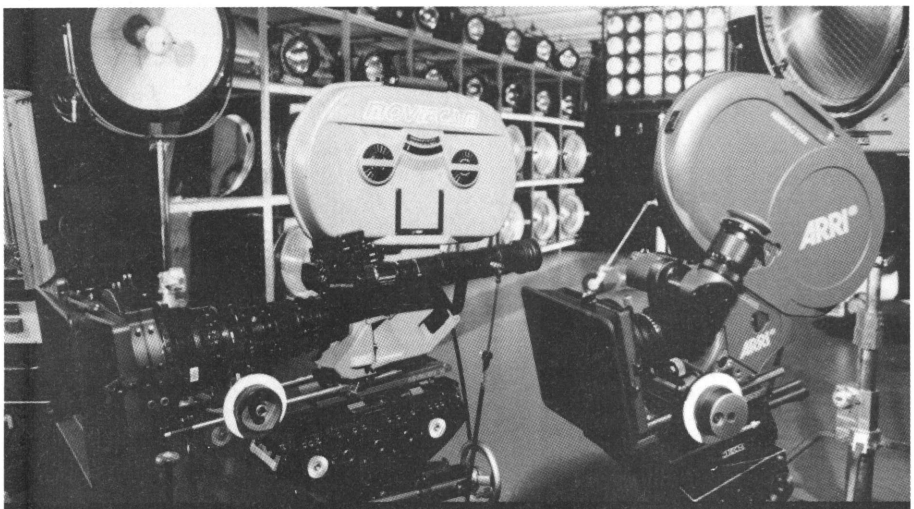
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would be a good venue for an event similar to what he had done in L'Aquila, particularly since Palm Springs is in close proximity to Los Angeles. Also, though cinematographers make such a major creative contribution to American film production, they receive little acknowledgment from this industry for their role."

Asked what factors have led to this situation, Kaminsky candidly offers, "Perhaps it's because other filmmakers have been more exuberant in their own praises. Of the cinematographers I've met, these are among the most artistic, creative and elegant people — yet they are largely kept behind the scenes. I think it's time for them to be recognized for what they do.

"One thing we really want to do with our event is help the industry and public understand what the creative role of the cinematographer is, and how important this person is — together with the writer and director — in accomplishing the translation from script to screen."

"In staging these kinds of events in Europe and now the United States, I've learned how much my colleagues like to participate in them," Tovoli offers. "For too long, the cinematographer has been in the shadows, and a little bit forgotten after the shooting portion of the film is over.

"Also, as I've found during my career, it's very rare for cinematographers to get the opportunity to meet and discuss their work — and it's almost impossible to observe each other at work! Before I began organizing these events, I knew perhaps three working cinematographers — my close colleagues — but now I know 1,600! This sense of community is vital to exchanging new ideas and teaching one another."

Kaminsky adds that camera operator Monty Rowan — who has worked with Tovoli on such films as *Desperate Measures* and *Single White Female* — has been instrumental in planning the "Cinematographer's Day" events. "Luciano has been in Italy most of the time, doing the conceptual work and

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A program is eligible providing it was originally broadcast on television within the United States on a commercial network, a publicly sponsored broadcast system or cable outlet between **January 1, 1999** and **December 31, 1999.**

Programs originally exhibited in motion picture theaters, or initially sold or rented for viewing on home video equipment, are not eligible for awards in the television categories.

The definition of a regular comedy or drama series is a minimum of three original programs that aired during the awards year. The theme, story line or principal characters must be predominantly featured in multiple episodes. The series must be presented under the same title and each program must be related to the others. A series must have a continuity of executive supervision and/or production personnel so that it is thought of as a whole rather than individual parts. **To be eligible, the cinematographer must have completed at least two episodes out of the entire series, created and aired in the calendar period.** A group of programs that carry a main title (e.g. "tent" or "umbrella") but are, in fact, composed of various sub-units, will not be considered eligible as "a series."

The criteria for eligiblity in the mini-series, movie-of-the-week or pilot category is as follows:

A mini-series consists of two or more original programs based on a single theme, storyline or principal characters that tell one story with a beginning, a middle and an end. The mini-series must have aired during the awards year and may not be eligible for consideration in any other year. The episodes must be presented under the same title with a continuity of executive supervision and/or production personnel as defined in the preceding paragraph.

"Movies-of-the-week" or "pilots" are single original programs that are not segments of series and are broadcast in one part.

You may submit one entry per category. However, if you win for a pilot in the mini-series, movie of the week or Pilot category, you cannot win for the same program in the series category. (Entries will not be considered without accompanying tapes.)

ENTRY DEADLINE :

Monday, January 3, 2000
by 12:00 noon at the ASC clubhouse.

REQUIREMENTS:

A. **One entry form** per category.

B. (1) **¾-inch tape** of the **full program.**

C. (1) **¾-inch tape** with **a 4 minute excerpt.** Excerpts will contain scenes of no less than 1 minute. There can be no altering or cutting within a scene. Scenes must be continuous. **No credits are allowed on the excerpt.** They must be submitted with their original sound.

D. **A brief synopsis** of the project, no longer than 25 words.

SEE REVERSE SIDE FOR ENTRY FORM.

FOR ADDITIONAL INFORMATION, CONTACT:
ASC Awards Committee
Attention: Patty Armacost
P. O. Box 2230, Hollywood, California 90078
(323) 969-4333 ext. 103 or 1-800-448-0145
FAX: (323) 882-6391

**Theatrical motion pictures are chosen for judging under different criteria and are not included in this entry applica-*

ENTRY FORM FOR TELEVISION CATEGORIES

The deadline for receipt of entries is Monday, January 3, 2000 by 12:00 noon.

ONLY ONE ENTRY WILL BE ACCEPTED IN EACH CATEGORY.
A SEPARATE ENTRY FORM IS REQUIRED FOR EACH CATEGORY ENTERED.
THIS ENTRY FORM MUST BE COMPLETELY FILLED OUT TO BE VALID.

CATEGORIES (Check ONE box ONLY):

❑ **One episode of a regular series***
** To be eligible the cinematographer must have completed at least two episodes out of the entire series created and aired in the calendar period.*

❑ **One episode of a mini-series, movie-of-the-week or pilot**

Cinematographer

_____

Address

_____

_____

_____

Phone: (_____) _____

Agent or Agency

_____

Address

_____

_____

_____

Phone: (_____) _____

Title of Entry

_____
(Program within a series or mini-series, movie-of-the-week or pilot)

Title of Series or Miniseries

_____
(If applicable)

Program First Broadcast on

_____
(Network, PBS Station or Cable Outlet)

Date of First Broadcast

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Production Company

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Producer

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Company's Address

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Phone: (_____) _____

A Brief synopsis: *25 words or less. Please print clearly.*

_____

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_____

ENTRY WILL NOT BE VALID IF NOT ACCOMPANIED BY TWO TAPES *(no exceptions)*:

1. ONE ¾-INCH TAPE — full program **2. ONE ¾-INCH TAPE — 4 minute excerpt (NO CREDITS ON THIS TAPE)**

I have read and agree to the rules for submission.

Signature _____

Date _____

See reverse side for rules.

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Date received _____ ❑ Data entered
Entry # _____

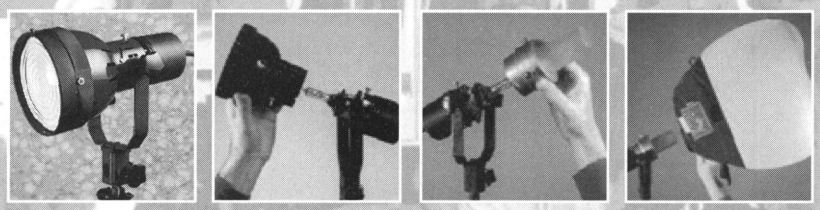
giving us direction, while Monty and I do the footwork together," he says. Kaminsky also credits former ASC president Woody Omens with helping him to coordinate with Society members, and notes that current ASC president Victor Kemper will attend this year's event as a guest of the festival.

One highlight of the "Cinematographer's Day" festivities is an open film competition that will honor one deserving director of photography for his or her recent work. Dubbed the "Da Vinci Award," the prize was designed by Arnaldo Pomodoro, and is intended to recognize excellence in cinematography. It will be presented during the festival's awards gala on January 15. The winner of the Da Vinci Award will be determined by an internationally respected jury of master cinematographers. Prescreening of submitted films will be accomplished by three committees of three cinematographers who will serve as delegates to the festival for judging. The three finalist films will be screened on January 14 (with the nominated cinematographers discussing their work afterwards). The voting panel includes ASC members Giuseppe Rotunno, Jost Vacano, Gu Changwei, John Seale, Vilmos Zsigmond, Roger Deakins and Conrad Hall, as well as Pierre L'Homme, Shoji Ueda and Subrata Mitra. This award is unprecedented because cinematographers throughout the world are eligible to vote and are not restricted by membership in a specific organization.

"Cinematographer's Day" also features a series of conferences, which will be conducted and attended (subject to availability) by cinematographers John A. Alonzo, ASC, John Bailey, ASC (who will make an opening address), Raoul Coutard and Lauro Escorel; directors Hector Babenco, Bernardo Bertolucci, John Frankenheimer, Jean-Luc Godard, Irvin Kirschner, Thomas Vinterburg and Wim Wenders; and critic Andrew Sarris.

Other events include a screening of the exceptional 1993 documentary *Visions of Light* (followed by a discussion with co-director Todd McCarthy), as well as screenings of the Dogme '95 films

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"Cinematographer's Day" will benefit from the opening of three new state-of-the-art theaters in Palm Springs, which were made available by one of the event's benefactors. "Our future plans for the festival include honoring a single cinematographer and screening a complete retrospective of their work," Kaminsky says, obviously happy with the new facility. "That will help to solidify our stature as a premiere cinematography event."

"In addition," Tovoli says, "the new facilities will ensure that people who attend the event will see every film at the festival as it was *intended* to be seen — with proper brightness and clarity. We're very proud of this, because it's the audience's *right* to see our work at its best."

In closing, Kaminsky offers, "No other international film festival here hosts a program to honor cinematographers or to provide a forum for both scientific and creative exchange on this subject. Both the Camerimage event held in Torun, Poland, and the Madridimagen festival in Madrid, Spain, are festivals created by and for cinematographers — we're different in that this is an international film festival event that hosts a cinematography event. We believe this is a first in the world, and we hope people enjoy it."

Further details on "Cinematographer's Day" may be found at www.cinematographersday.com. You may contact the organizers by fax at (760) 773-1587, or via e-mail at dkaminsky@emc.org.

The Nortel Palm Springs International Film Festival may be reached at (760) 322-2930 or (800) 898-7256, by fax at (760) 322-4087, by e-mail at info@psfilmfest.org, or via website at www.psfilmfest.org.

A New Silent Era

After being dark for almost three years, the historic Silent Movie Theater, located in the Fairfax District of Hollywood, California, recently reopened its doors on November 5 with a screening of Charlie Chaplin's 1936 classic *Modern Times*, which was photographed by Ira H. Morgan, ASC and Roland "Rollie" Totheroh, ASC.

Located at 611 North Fairfax Avenue, just south of Melrose Boulevard, the Silent Movie Theater first opened on February 26, 1942 with a screening of Cecil B. DeMille's 1927 film *King of Kings*, which featured top-notch camerawork by J. Peverell Marley, ASC. The stucco-and-wood structure has since survived four major earthquakes, two floods and a riot.

John and Dorothy Hampton ran the Silent Movie Theater for more than 35 years, and the unique revival house offered an array of silent features and shorts with live organ accompaniment. Meanwhile, John Hampton worked to collect and restore hundreds of silent film prints that would have otherwise passed into oblivion. The couple closed the theater in 1979 due to a family illness, and John later passed away — a victim of cancer possibly contracted due to his many hours of exposure to the toxic chemicals used in film restoration at that time.

In 1991, Laurence Austin, an aficionado of silent films and a close friend of the Hamptons, convinced Dorothy that he could reopen the theater in the spirit of John's memory. Mrs. Hampton even sold tickets at the box office until 1993, when her health took a turn for the worse.

Tragically, on January 17, 1997, during a screening of the 1927 classic *Sunrise*, a lone gunman killed Austin — ostensibly during a robbery attempt. Later investigation revealed that Austin's murder was a contract killing planned by his longtime companion, James Van Sickle, who had hoped to inherit Austin's estate.

It was widely assumed that the Silent Movie Theater would never reopen. In 1999, however, it was purchased by Charlie Lustman, who has since done an extensive renovation. Improvements include the restoration of a second-floor café and the construction

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Films Foretell the Future

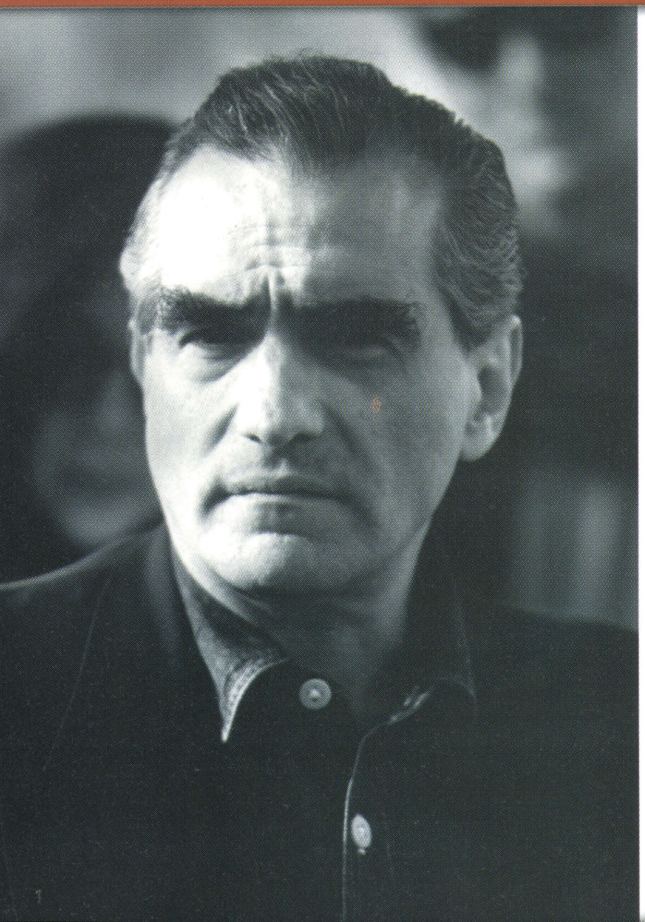
To welcome the year 2000, Jeb Brody of the American Museum of the Moving Image in New York has programmed an insightful array of films featuring a variety of fatalistic post-millennial milieus, beginning on December 18 and continuing through January 2.

Since its inception, cinema has long played a significant role in defining our visions of the future. Louis and Auguste Lumiére foresaw the automated factory in *The Mechanical Butcher* (1895); Ferdinand Zecca and his imitators created floating automobiles, submarines, and bicycles in films like *The Flying Machine* (1901); and Georges Méliés, influenced by Jules Verne and H.G. Wells, anticipated space travel in *A Trip to the Moon* (1903). These filmmakers saw huge possibilities at the dawn of the century, most of which were positive, and many of which came true.

Almost 100 years later, we are once again at the threshold of a new century — a subject that has inspired generations of filmmakers. Adept with their tools and no longer needing to invent a cinematic language, filmmakers of the 20th century have produced complex portraits that transcend generic boundaries in their attempts to forecast life beyond the year 2000. These limitless fantasies of the next millennium, which once seemed so far away, are finally upon us.

In 1927, Fritz Lang conceived of an ominous city in a film that would forever enrich the lexicon of the cinema. The summit of German Expressionism, Lang's *Metropolis* (screening on 12/11) is generally considered the first great science-fiction film. Set in the year 2000, this tale of a city divided by science and industry is a masterpiece of geometry and art direction, and introduced what have since become *de rigueur* symbols of the future: robots, laboratories, airborne expressways and awesome, foreboding skyscrapers. Over time, the film has settled inside our collective subconscious, and has become our dominant conception of the future.

The influence of Lang's vision of urban life influenced by scientific progress and human despair can be seen in scores of films. *Blade Runner* (12/11 and 12/18), Ridley Scott's noir-like, prophetic portrait of Los Angeles in 2019, depicts a crowded, desperate, and diverse city that suffers from sensory overload, updating the *Metropolis* mystique with a postmodern pastiche of commercialism. In *Alphaville* (12/18 and 12/19, with Chris Marker's *La Jetee*), Jean-Luc Godard describes the futuristic



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— Martin Scorsese

city Alpha 60, a place as overtly sterile and oppressive as Paris in 1965, because it *is* Paris in 1965. William Cameron Menzies' 1936 epic *Things to Come* (1/2) features a Londonesque Everytown that has been bombed into the Stone Age and resurrected as a shiny technological marvel that is considered more important than the needs of individual citizens.

Away from the menacing architecture of the city, the highways of the next century, where 1970s-style hot-rods are the last vestige of civilization, are no place for a family road trip. Two films screening on 1/1 illustrate this point: the ultra-violent and delightfully campy *Death Race 2000* offers a sneering commentary on celebrity status, while *Mad Max* conveys a future where sheer physical force and a well-built muscle-car are the route to power in the post-apocalyptic Australian outback.

Chris Marker and François Truffaut both consciously look outside the cinema to investigate the hyper-authoritative future. Marker's stunningly beautiful *La Jetee* (12/18 and 12/19, with *Alphaville*) is an experiment in form composed of still photographs that poetically examines the very nature of film. This type of meta-cinema illustrates the static qualities of a humanity deprived of memories — it can have no past and no future. In Truffaut's *Fahrenheit 451* (12/19), an oppressor reevaluates his moral position, and discovers a world outside the modern age — the world of literature.

Of course, dark and portentous future scenarios have also been mined for their satiric possibilities. Terry Gilliam's *Brazil* (12/11 and 12/12) is a willfully absurd variation on the theme, with faulty plumbing at its neurotic heart. The future feels like an antiquated past in which technology looks expensive, but is mostly just quaint and naive. In *Demolition Man* (1/2), political correctness poses a greater threat to humanity than out-of-control technology. And Woody Allen's *Sleeper* (12/26) is a delightfully paranoid farce about a health freak who awakens from a cryogenic sleep in 2173, where he confronts a Brave New World that can't make heads or tails of his 20th-century neuroses.

Will the future really be so bad? We're only days away from finding out. For complete screening details, contact the American Museum of the Moving Image at (718) 784-0077; website: http://www.ammi.org. ■

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Galloping Ghost



Cinematographer Emmanuel Lubezki, ASC, AMC teams with director Tim Burton on *Sleepy Hollow,* a sumptuous adaptation of Washington Irving's famous folktale.

by Stephen Pizzello

Unit photography by Clive Coote

The year is 1799, and an evil aura has descended upon the normally peaceful New England hamlet of Sleepy Hollow. Its townsfolk have grown to dread the sound of hoofbeats, which could signal the approach of a strange and terrifying specter: a headless horseman who decapitates anyone heedless enough to cross his path.

Thus begins Washington Irving's classic American folktale *The Legend of Sleepy Hollow.* Penned in 1819, this enduring myth has spooked both children and adults for nearly two centuries. It has also inspired a number of film adaptations; the earliest was Étienne Artaud's silent 1912 version, but the most famous is Disney's 1958 animated cartoon.

That may change with the release of Tim Burton's *Sleepy Hollow,* a highly stylized live-action feature that puts a new twist on Irving's fiction. In Burton's take, Ichabod Crane (Johnny Depp) is a dutiful but eccentric constable who uses advanced and somewhat unorthodox methods to solve crimes. His expertise is put to a true test when his superiors send him off to investigate the recent spate of eerie occurrences in Sleepy Hollow. After his arrival, Ichabod falls for the fetching Katrina Van Tassel (Christina Ricci), the daughter of the town's most affluent family. He soon finds himself vying for Katrina's hand with Brom Van Brunt (Casper Van Dien), under the watchful eyes of the young lady's parents, Baltus Van Tassel (Michael Gambon) and Lady Van Tassel (Miranda Richardson).

If ever a story seemed tailor-made for a specific director, *Sleepy Hollow* was it. Burton fell in love with the script (see interview beginning on page 54), and his creative sensibility seemed ideally suited to the material. Respected throughout the film industry as a truly imaginative visualist, the director sought to imbue his latest picture with the spirit of the classic horror movies he adored

Photos courtesy of Paramount Pictures.

during his youth.

Intent on fashioning a Gothic atmosphere leavened with lyrical romanticism, Burton hired Mexican director of photography Emmanuel Lubezki, ASC, AMC, a rising star in cinematography circles. Known affectionately throughout the industry by his nickname, "Chivo," Lubezki has demonstrated his considerable ability with the strikingly beautiful images and lush lighting he has contributed to the Hollywood films *A Little Princess* (which earned him both Academy and ASC Award nominations; see *AC* June '96, p. 80), *A Walk in the Clouds, Great Expectations* and *Meet Joe Black*. He has also demonstrated versatility by shooting several comedies, including *Reality Bites* and *The Birdcage,* and earned three consecutive Ariel Awards (Mexico's equivalent of the Oscar) for his work on *Like Water for Chocolate, Miroslava* and *Amber*.

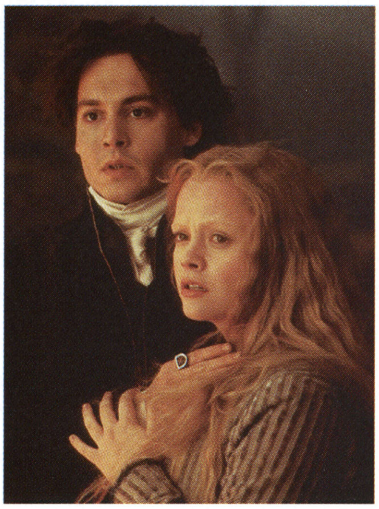
Lubezki was approached about *Sleepy Hollow* by the film's producer, Scott Rudin, who was well aware of the cameraman's sterling reputation. "Scott had already called me about jobs a couple of times, but I was always busy on other projects," Lubezki reveals. "I really wanted to work with him, though, because he produces great stuff. This time around, he told me he was doing a project with Tim Burton, and naturally I jumped at the chance.

"My first meeting with Tim was incredible," the cameraman continues. "He told me he liked the script because it was about one guy who lives entirely within his own head, and another guy who doesn't have a head at all. I wasn't sure if that idea would be enough to support a whole movie, but then he went on to describe all of these great 'Burtonian' images. It was really interesting to see how Tim's mind works."

Although Lubezki had gained valuable experience on his previous Hollywood productions, it's safe to say that *Sleepy Hollow* was the most ambitious undertaking of his career. "It was definitely a large-scale project," he confirms. "The day I met Tim, he said he was going to shoot the movie in upstate New York, at the real place that inspired Washington Irving's story. After he scouted the location, though, he told me, 'Chivo, forget it, we can't shoot it there. I don't want the movie to look completely realistic and naturalistic, like *The Crucible*.'"

Burton explained to the cinematographer that he wanted *Sleepy Hollow* to have a stylized, slightly







Opposite: The Headless Horseman tears through Sleepy Hollow. The character's head was removed digitally by visual effects experts at ILM. This page, top to bottom: Ichabod Crane (Johnny Depp) investigates the Tree of the Dead, which serves as the Horseman's gateway to hell; Ichabod and Katrina Van Tassel (Christina Ricci) cling to each other in a tense moment; cameraman Emmanuel Lubezki, ASC, surveys the Western Woods, a convincingly creepy forest constructed within soundstages at both Leavesden and Shepperton Studios by production designer Rick Heinrichs and his crew.

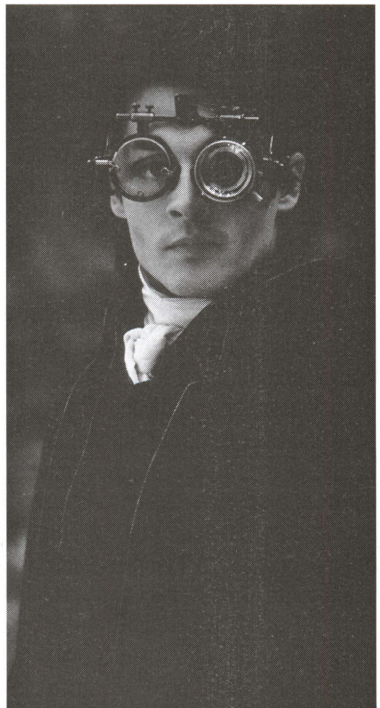
Galloping Ghost



Above: Suspended from heavy-duty construction cranes, three giant softboxes illuminate Sleepy Hollow's town center, a highly detailed exterior set built on location in Marlow, England. (See complete diagram on page 51.) Each softbox contained arrays of Maxi-Brutes that served to duplicate the toplight strategy that Lubezki and gaffer John Higgins had devised within the production's soundstages. Right: Ichabod demonstrates his rather advanced detection methods with the help of a newfangled gadget.

artificial feel that would pay homage to some of his favorite horror films, which included various titles from the Hammer Films archives, as well as Mario Bava's atmospheric 1960 chiller *Black Sunday*. "I was familiar with the most famous Hammer films, like their Frankenstein and Dracula movies, but I've never been as big a fan of them as Tim is," Lubezki admits. "I find them to be funny and a bit campy, which I don't think Hammer intended them to be. Our biggest frame of reference was *Black Sunday*. That film is really interesting, because the images are very clear and strong.

"In actuality, I don't think *Sleepy Hollow* resembles the Hammer films, except in the way that it was made," he maintains. "We did a lot of work on soundstages, and we tried to emulate that 'classic movie' feel. The Hammer films were made that way because the filmmakers on those pictures didn't have a lot of money. We did it because Tim liked the idea of creating a synthetic, pictorial look. Shooting that way also gave us control of the various visual elements, such as the color and contrast, as well as the seasonal elements, like the fog and wind. Tim wanted the whole movie to be in a fall/winter season. We also wanted to control the amount of *reality* in the movie. It's not a historical reconstruction, it's a fantastic tale. One of the great things about the movie was making it on very stylized sets. We wanted to find our own reality within a completely theatrical world."



Toward that end, production designer Rick Heinrichs (*Fargo, The Big Lebowski*) worked closely with his old friend Burton to design elaborate sets — both in soundstages at England's Leavesden and Shepperton Studios, and on location in Marlow, a small town just outside London. During the preparation stage, Heinrichs constructed a series of highly detailed miniature models depicting the film's major settings, which include Sleepy Hollow, the spooky Western Woods, a stylized windmill, and various dwellings. "The models helped to capture the texture, the forms, and the colors that we were trying to get in the final sets," Heinrichs says. "They also gave Tim a chance to see the sets in three dimensions before they were actually built, and to work out the logistics of various scenes. A lot of ideas began at that stage of production, because it's much easier to deal with miniatures than full-sized sets. For example, if you want to chop something off a

building, you can do it without spending $20,000."

Heinrichs describes the film's architectural style as "colonial expressionism. The look is not historically accurate, it's more a mish-mash of various styles. Since the story of the Headless Horseman takes place in a Dutch farming community in upstate New York, the film has a lot of Dutch architectural touches, but we also built some English Tudor half-timber structures with thatched roofs. We wanted Sleepy Hollow itself to seem like a very insular community, as if the residents and even the buildings were huddled together in fear, almost like a herd of sheep."

The project's construction crew included as many as 80-100 artisans during periods of peak activity. The production took up every free inch of space at Leavesden, where sets included the Van Tassel Manor House and other dwellings, a creepy cemetery, and portions of the Western Woods. Stage H at Shepperton housed the rest of the Western Woods, including a witch's cave and the Tree of the Dead, a huge gnarled landmark that serves as the Headless Horseman's gateway to hell. Heinrichs notes, "Some of the designs are reminiscent of the old German expressionist films *The Cabinet of Dr. Caligari* and *Nosferatu,* which have a very strong, graphic, two-dimensional look within a three-dimensional environment. That's something Tim and I have always liked to play with in the films we've done together."

The production designer's biggest task was the construction of Sleepy Hollow's town center in Marlow. Nestled in a hunting preserve that came complete with a duck pond, the faux village included everything one might expect from a turn-of-the-19th-century storybook setting: a covered bridge, a church, a blacksmith's shop, a farmer's union, a notary public, a halfway house and a general store. During *AC*'s nocturnal visit to the production in February of 1999, a freezing rain had turned the town's dirt road into a muddy ankle-deep soup, adding further authenticity to the tableau but causing Burton to catch a nasty cold. Surveying the scene while applying a handkerchief to his reddening nose, the director seemed like a man who might be happy to lose his head to the Horseman's axe. "Happens to me on every shoot," he moaned.

The crew's grim slog was brightened a bit by Lubezki's lighting setup, which comprised three giant softboxes suspended from a trio of 250-ton construction cranes. The roof of each unit contained six 24-light (Par 64) Dinos aimed downward, while three of the sides contained a trio of 9-light Maxi-Brutes angled at 45 degrees. According to gaffer John Higgins, "Our initial idea for that set was to have a tank-track road ringing the set, and we did tests with various lighting rigs at the positions we could access from the tracks. That idea proved to be impractical for many reasons. Instead, we decided to suspend these very large soft sources on rotating bases that could be positioned at any point above the set and still be kept hidden. The art department built a fantastic scale model of

A view from the main road in Sleepy Hollow, on location in Marlow. Production designer Rick Heinrichs describes the film's architectural style as "colonial expressionism," noting that he and Burton agreed that the village should seem like "a very insular community, as if the residents and even the buildings were huddled together in fear, almost like a herd of sheep."



Galloping Ghost

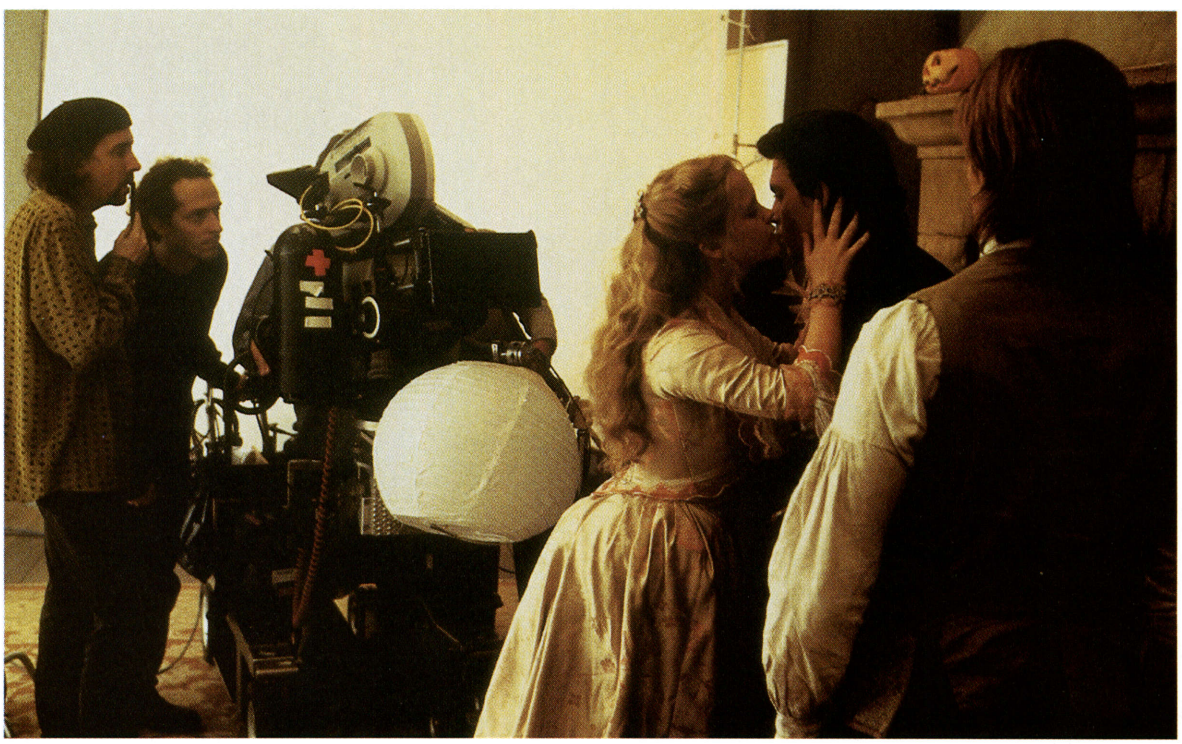


Right: Seeking to enhance the film's stylized ambience, Lubezki eshewed the traditional rules of source lighting, opting instead to illuminate interior sets with large, soft sources aimed through grids of diffusion. "My approach was to position a light so you couldn't tell where the light was coming from, while creating an atmosphere that was correct for the scene," he notes. "Sometimes the light was a bit low, or in a position that wasn't consistent with the 'source' in the scene, but I didn't mind doing that — directors of photography may notice it, but I don't think audiences will." Below: Burton (far left) and Lubezki prepare to capture a passionate kiss between Katrina and Ichabod. Note the China ball suspended from the front of the camera rig.

the set, and when we studied it we thought there might be three points where we could position our supports. We eventually located a company that had three 250-ton telescoping cranes with a reach of 67 meters [approximately 220 feet]. The art department then made working scale models of these cranes, which we positioned around the model. This test confirmed that the only way to reach all points on the set was to use three cranes. We then did a test with a half-size version of our rig, which confirmed that our theory would work."

Each of the completed softboxes consisted of a 20' x 20' base with sides 12' high built from scaffolding. The units had to be strong enough to be suspended safely with the lights attached, and the set's roads also had to be reinforced to support the cranes' weight. Each box could provide 250K of light, and full grid-cloth was affixed to the bottom and sides of each. Long black ropes were attached to the corners of the rigs so the crew could control their rotation from the ground. The last lamp mounted on the base of each rig was a 70K Lightning Strikes unit, and the power to the rigs was provided by twin 200K generators. The rest of the power for the set was provided by three other generators, while a complete cabling system was wired and then buried during construction of the set. The system enabled the lighting crew to deliver large amounts of power to any part of the set very quickly.

The enormous sources cast a broad, soft glow over the Sleepy Hollow set, lending the picturesque sets an ethereal ambience. Lubezki offered some further insights into the origins of his lighting strategy while hiking up a wet, sloppy path to the set's hilltop entrance, which was marked by a pair of stone columns adorned with stag's heads. "I've been on this movie from almost the very beginning," he said. "I usually like to participate a lot in the design process, as I did with [production designer]



on the edge of the millennium



some things are still made by hand

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Galloping Ghost

Top: Bathed in warm toplight, Ichabod examines the Headless Horseman's handiwork. Bottom: A view of the ceiling within Stage H at Shepperton Studios, where more than 500 dimmer-controlled space lights were installed to illuminate various sets, including the Western Woods. This strategy was duplicated within the largest stage at Leavesden.

Bo Welch on *A Little Princess*. On this one, though, Tim, Rick and the costume designer, Colleen Atwood, were already a team; I was the only new person in that group, so I was more like a pupil who was learning, and I stayed a bit quiet. When I began seeing all of the various models, the first thing that came to my mind was, 'Stop this insanity, tell Rick to create a window, or to make the ceilings higher.' All of those instincts of mine were working almost against the process, though, because Tim and Rick were creating very complicated designs. I decided to just sit back and learn from what they wanted to do, rather than throwing out ideas that would be obtrusive. They were open to my suggestions, and they agreed with most of them, such as painting all of the trees inside the soundstages black. But in general, I stood back and listened a bit more than I've done on other movies.





"One day we had a big meeting with everyone, and we talked about building everything at Leavesden Studios. When we went to England on the first scouting trip, they showed me the sets on the stages, and I thought they were joking — all of the stage ceilings were really low, and the sets were less than 20' high. That created some big limitations, and as a result, I had to throw out my initial plans for the lighting. My first idea had been to employ huge sources, most of which would come from the back to create silhouettes, and to use very little fill light. However, the approach I eventually adopted worked out much better: I decided to create a huge toplight, which I had never done before. The stage ceilings were so low that we couldn't really hide lights in the greenbeds. Instead, we created a huge sense of sky for the exteriors shot in the stages. We installed over 500 space lights up in the ceiling, very close to each other, and then pumped smoke into the rafters to create a false sky and obscure the fixtures. That way, all of the light would seem to be coming from the sky, as it would in reality. Being low helped me because I was getting the stop I wanted, and it was easier to control the smoke."

This array of space lights, supplied by Lee Lighting, was controlled by computerized dimmer systems. Complete systems of space lights and dimmers were installed within the largest stage at Leavesden, as well as in Shepperton's Stage H. In order to match this toplight approach while shooting real exteriors, Lubezki and Higgins devised their softbox strategy. "Once I real-

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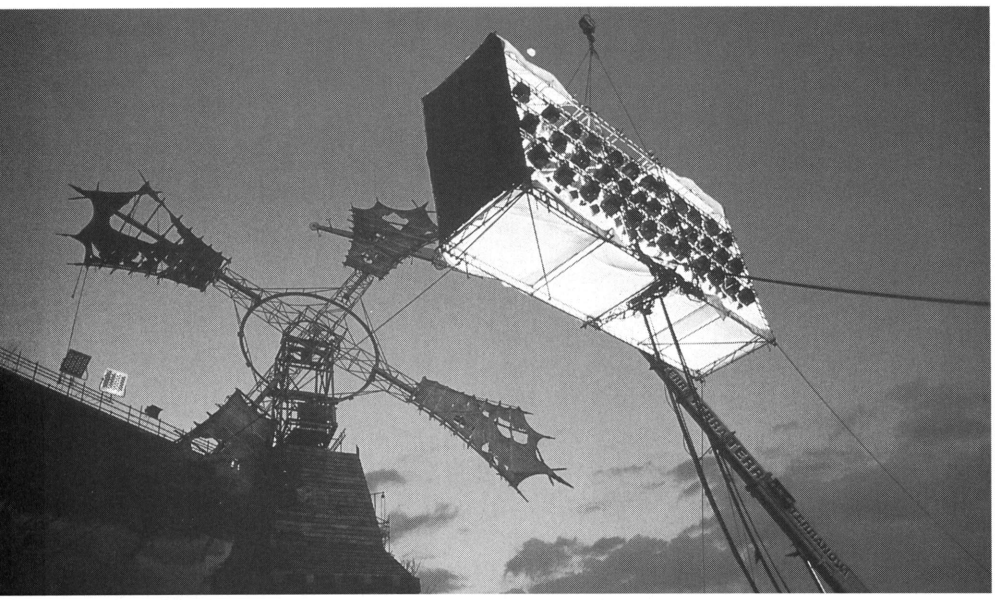
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Galloping Ghost



Lubezki modified his softbox strategy while shooting the film's climactic sequence, which occurs at a stylized windmill whose design was inspired by a scene in Alfred Hitchcock's 1940 espionage thriller *Foreign Correspondent*. "We lit the scene with one source, a longer softbox placed to the side [of the windmill] rather than overhead. The windmill was so tall that if I had used a toplight, the highest part of the structure would have been four stops brighter than the bottom."

ized that I was going to use this soft toplight for the 'exterior' scenes shot in the soundstages, I wanted the real village to look exactly like those stagebound sets," Lubezki says. "The big fear that Tim and I had was that our real exterior locations would suddenly have another look that was too naturalistic. The trick was to strike the proper balance between pictorialism and realism. The cranes we used helped me a lot, because it was almost like bringing the stage ceiling to a location. In the finished film, you can't really tell if the movie's exterior scenes were done on location or in a soundstage; it all matches very well.

"In a funny way, using the cranes was cheaper than lighting the sets any other way," he attests. "When you rig immense softlights up on cranes, you can move them really quickly. Each rig has only one light, and you can put it anywhere you want, which allowed us to do more setups per day. We also didn't have to use much supplemental lighting at all — almost none, in fact. Sometimes from the ground we'd add a bit of fill light just to see the actors' eyes and so forth. Any extra lights we used on the ground were always aimed through diffusion grids. By the time the light reached the subjects, it was simply a 20' by 20' grid of light, so it almost didn't matter whether we were using 10Ks or Mini-Brutes. A cinematography purist might not agree with that statement, but once you put the light through so many layers, it really doesn't matter what kind of fixture you're using. I would basically tell the crew which stop I wanted, and John Higgins would pick a light and use it to fill a 20' by 20' frame."

Lubezki extended his softlight approach to the film's interior sets. He used tungsten fixtures, most of which were were aimed through several layers of diffusion. The cinematographer then used an array of flags to keep light off the set walls, which were often wild. He adds that he did not always adhere to cinematography's general rule of motivated sources. "In *A Little Princess,* all of the light was motivated, but *Sleepy Hollow* is not a realistic movie, and I didn't want it to be like a typical movie, where if you have a candle, the light is coming strictly from the candle. My approach was to position a light so you couldn't tell where the light was coming from, while creating an atmosphere that was correct for the scene. The Hammer films weren't always perfectly lit; sometimes they would just create lighting that would enhance the feel of a scene, to make it more scary or mysterious. I took the liberty of lighting from wherever I wanted, almost to the point where the light was sometimes coming from the wrong side of the frame. For example, the candle might be on the left with the lighting coming from the right. My approach to close-ups was basically to use one light in what I considered to be the best position possible — even though that position might not be what other cinematographers would consider to be 'good lighting.' I would generally use light aimed through 20' by 20's or 12' by 12's; I used full-grid diffusion through most of the picture, often in combination with a half-grid. Sometimes the light was a bit low, or in a position that wasn't consistent with the 'source' in the scene, but I didn't mind doing that — cinematographers may notice it, but I don't think audiences will."

Prior to the shoot, Lubezki and Burton consulted on a number of other important visual issues. The duo agreed that shooting in the 1.85:1 format would better approximate the look they were after, which the cinematographer describes as being similar to "a series of illustrations from a classic book." Widescreen anamorphic was ruled out, since both filmmakers agreed that the wider format "immediately looks more contemporary and less classical."

The cameraman chose to shoot with Panavision cameras equipped with Primo lenses. He used no filtration save for neutral-density, and kept the number of lens changes to a minimum. "We didn't use a lot of lenses to shoot the movie," Lubezki confirms. "The 40mm was our long lens; sometimes, when we just couldn't get the shots that we wanted with the 40mm, we used the 50mm, and once or twice the 75mm. In general, though, the 40mm was our longest lens and the 21mm was our widest. The 27mm was our

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HORROR ON THE HOOF

by Ron Magid

Early in the prep stage of *Sleepy Hollow,* the film's effects team attempted to create the Headless Horseman with the old "built-up shoulders" gag. However, the venerable trick distorts body proportions, turning the average actor into a towering headless hulk. When the filmmakers saw the results, they realized that the actor's head wasn't the only thing missing — the effect also lacked realism.

Director Tim Burton asked ILM's Jim Mitchell, who brought CG Martians to life in *Mars Attacks!,* to oversee *Sleepy Hollow*'s visual effects. To minimize ILM's workload, Mitchell also initially lobbied to do the Headless Horseman the old-fashioned way. "But in the back of our minds," Mitchell admits, "Tim and I knew that something just wasn't going to be right with that approach. We eventually decided that our Headless Horseman would be an actual person riding the horse and flailing his axe around, except that we'd just digitally erase his head.



Visual effects supervisor Jim Mitchell takes a whack at the Horseman's head.

"In all honesty, *Sleepy Hollow* is not a big effects show like *Mars Attacks!,* where we were doing a lot of animation. The majority of our work was enhancing the visuals created by Tim, cinematographer Emmanuel Lubezki and production designer Rick Heinrichs, so we've done about eight matte paintings and a bunch of other effects. Our work is not there to draw attention to itself."

Mitchell divvied the Horseman shots between ILM and London's Computer Film Company, marking the first time an ILM effects artist has simultaneously supervised visual effects at another facility. "Of the 300-some Headless Horseman shots, we've done about 220, with CFC handling the rest," Mitchell says. "We were in London for seven months shooting all of this stuff, and as we got started on the effects, I was able to interact with CFC over there. [ILM animation supervisor] Mark Miller and I broke everything down into sequences so that we weren't intermixing shots in the same sequence. That way, their shots would have continuity and so would ours. Despite the distance between us, we actually created a consistent look. They did fine work."

Two actors played the Headless Horseman: Rob Inch performed in the riding sequences and daredevil shots, while Ray Park (of Darth Maul fame) handled the fighting sequences. Each wore a blue hood over his head to facilitate the digital removal, which was not as easy as it sounds — especially since Lubezki's restless camera was forever prowling over sets filled with billowing fog. "On every shot involving the Horseman, we just let Tim and Emmanuel shoot the plate as if the head was already gone," Mitchell notes. "Forget the fact that we were going to be struggling to erase this blue head moving through the woods with fog surrounding it. There are all kinds of things we'd prefer to stay away from when we're doing this type of work, but if you lose those [atmospheric] touches, all of a sudden it's not the same sort of visual, and it doesn't have same power."

Once they removed the actors' heads from the picture, ILM and CFC's artists still had to reinstate the foggy backgrounds and other elements of the scenes. "We never shot anything with motion control, so there was a lot of 2-D tracking to match things up, and frame-by-frame paint work to replicate the backgrounds," Mitchell says. "The big problem for us was [that] every shot involving the Horseman also had lightning and fog, which was constantly moving and always changing, as opposed to trees and buildings, which are rigid. Whenever lightning hit the Horseman, we had to make sure that when we replaced his collar or any other parts of his suit that his head was blocking, we put the same lighting effect on it."

Equally tricky were fight scenes in which the faces of actors Johnny Depp or Casper Van Dien were blocked by the Horseman's blue hood. "Once we erased the Horseman's head, we also erased Johnny or Casper's face, and we had to replace that," Mitchell reveals. "I would have Johnny or Casper go through the same actions without the Horseman in there, and we'd just put their head into any frames where the Horseman's head was blocking theirs. It's a tricky process, but it was actually pretty effective."

The old prosthetic shoulder-and-neckpiece gag did come into play for a few Headless Horseman shots. Kevin Yagher, *Sleepy Hollow*'s co-producer, co-writer and makeup effects supervisor, explains, "If the Horseman's coming straight at you, the guy's got his head [tilted] back, and there is a portion of the torso and shoulders that are built up to hide it. When they shot the reverse angle, we had a *different* piece where he was bending his head forward. We also did a torso that we used at one point a close-up in which Ichabod looks down into the horseman's 'neck hole' and sees a mass of worms and insects crawling around." ■

Photo courtesy of ILM.

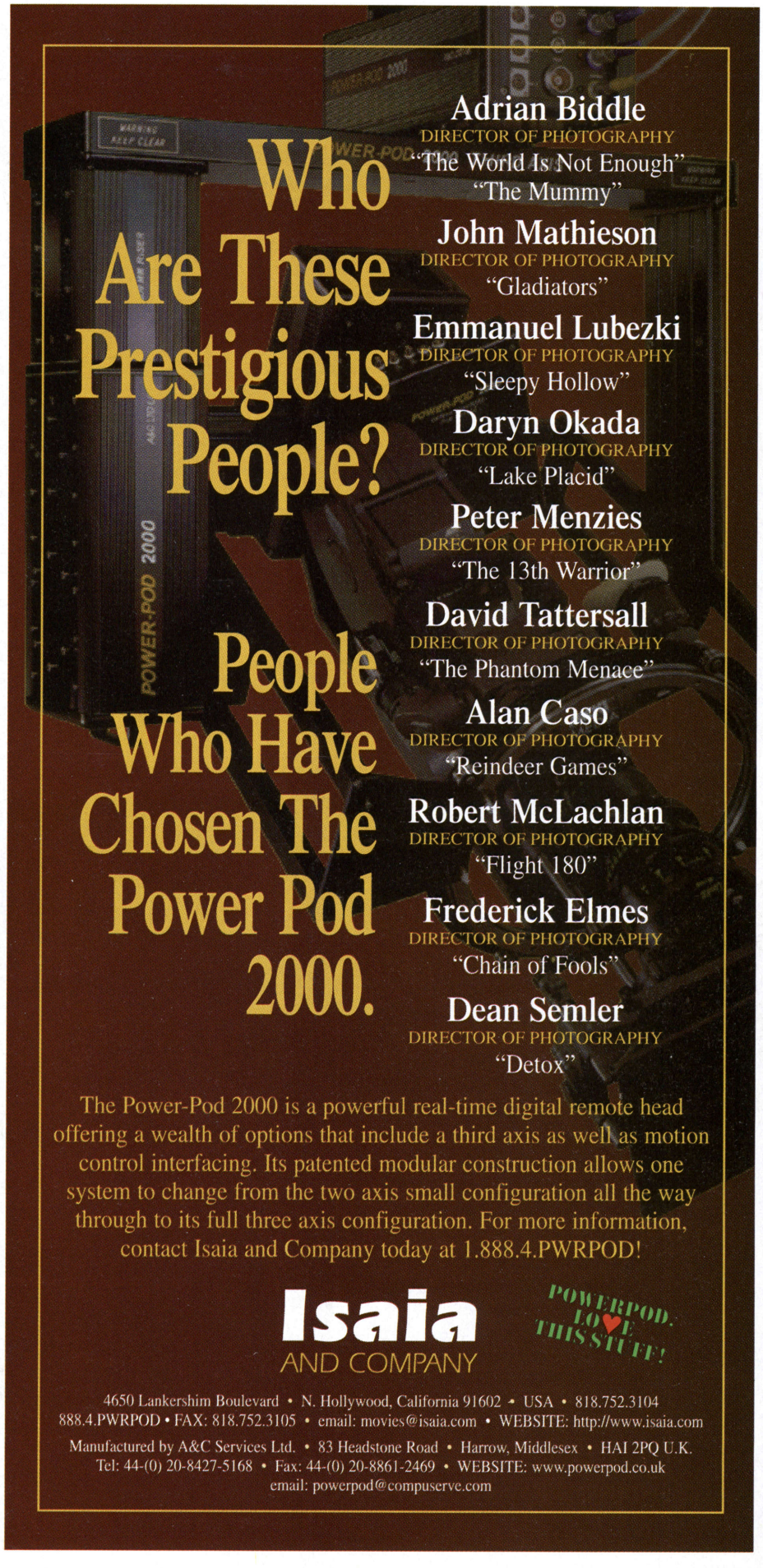
normal lens, and we also used the 35mm. In my opinion, when you start combining a lot of lenses, the look becomes a bit too rococo or baroque — there are too many different variations, and you lose something intangible. We wanted to keep the look of the film consistent.

"I definitely like using wider lenses, because they immediately put the actors in a context. I don't like looking at anamorphic movies where they shoot the actors with a 180mm lens and the backgrounds go soft — you don't know where you are. I like to show the characters in their environments; I think that enhances the story.

"In a funny way, though, that approach made our sets seem more limited," he concedes. "To the eye, they looked big, but the reality was a bit different. Usually, your first instinct is to use a long lens to disguise those limitations, but on this film we wanted to audience to feel that the sets were slightly unreal. We wanted to create a hint of artificiality in the look, but not enough to take you out of the movie."

To determine his ideal photographic aperture, Lubezki performed exposure tests on the sets, shooting at f-stops of 5.6, 4, 2.8 and 2. "I found that to increase the film's pictorial quality, it was better to shoot almost wide-open," he says. "The lenses were wide enough for me to feel the sets, but we didn't want the sets to look too hard or harsh. We therefore shot the whole movie between 2.5 and 2.8. That was a first for me, because I usually shoot between 2.8 and 4. It was easier for me to light with a wider f-stop, though, because it became easier to see and judge the contrast by eye."

The cinematographer opted to record the entire movie on one film stock: Kodak's Vision 200T 5274. He explains that this decision was based on the filmmakers' desire to enhance the look of the picture with Deluxe Laboratory's Color Contrast



Galloping Ghost

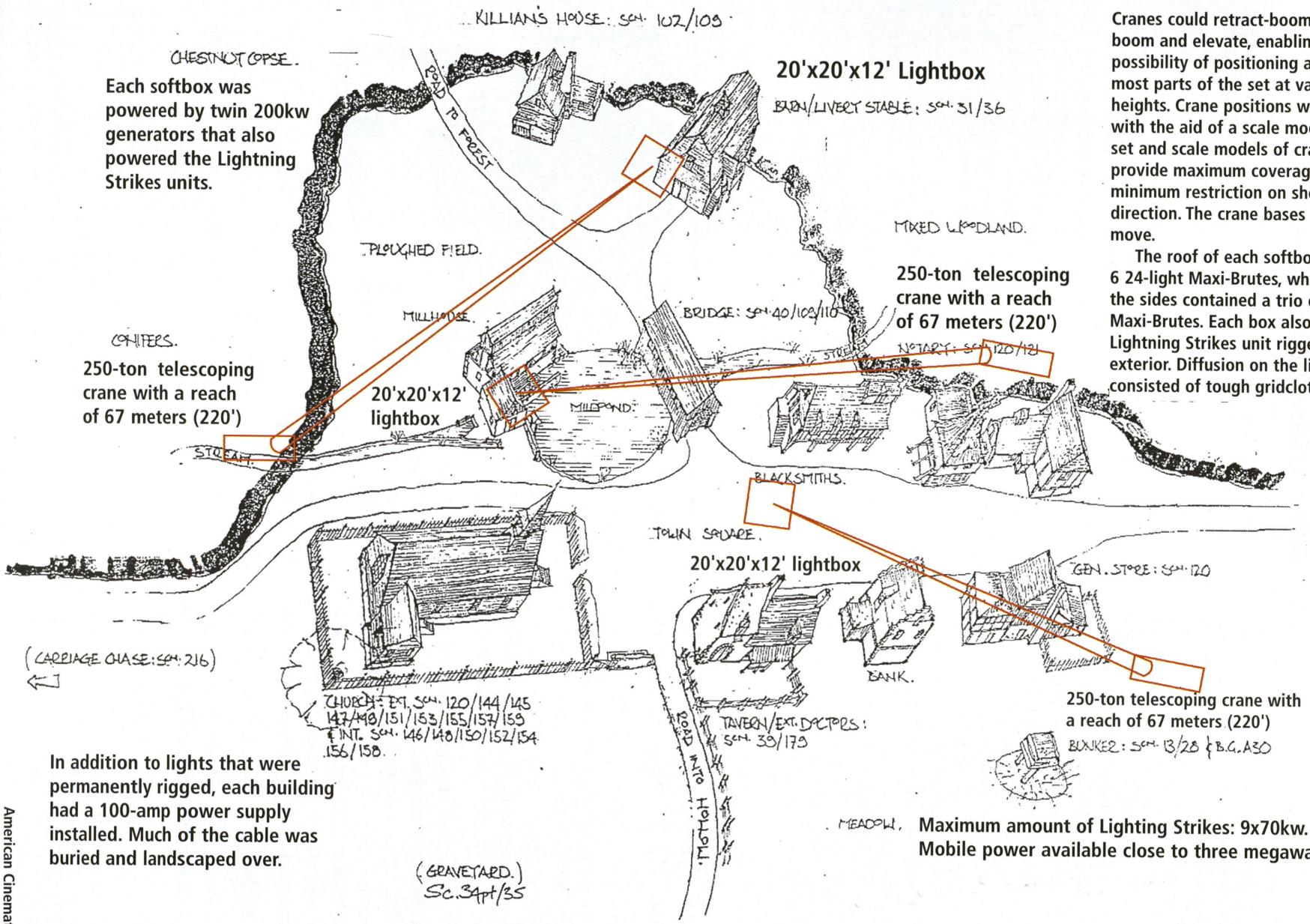
Enhancement (CCE) process. "With the CCE process, you add a lot of grain, and I thought the Vision 500T [5279] was just too grainy. I love the texture of grain, though, and I think the grain [that the CCE added] works well, because the images have the quality of an old illustration. I don't like it when the grain starts to become obtrusive, and the audience begins to feel it. If someone who doesn't know much about photography mentions grain, it means they're perceiving it too much."

Developed by Deluxe's vice president of technical services, Beverly Wood, and executive vice president of engineering, Colin Mossman, CCE is one of three silver-retention processes offered by the lab. According to Wood, "CCE is a proprietary process that produces a much higher contrast and adds more grain. When you have more silver [in the print,] you get a grainier look and blacker blacks. However, your black [values] can also plug up more. The matter of getting the color, the balance and the contrast right comes from the standpoint of density. CCE is different than the ACE process, which is adjustable; with CCE, the distinguishing factor in the answer-print process is that you can't really adjust the blacks or the amount of desaturation. Our job at Deluxe is to get the look that Tim and Chivo want at the answer-print stage, and then maintain that same look when we make the dupe."

Lubezki notes that "from the beginning, Tim said, 'If the studio would let me, I'd shoot this movie in black-and-white.' But then we talked about it and he said, 'You know, maybe not — maybe it's better just to do it in color and keep everything very monochromatic, but still keep all of these shades of grey, dark blue, very dark brown and green." He asked me if there was anything I could do in the photography to get that look, so we began talking with Beverly about different processes that would enhance the film's contrast and desaturate the colors. We did a bunch of tests, like flashing and not flashing the film, and we decided to go with CCE, which was the process that would add the most contrast and desaturate the colors the most. Tim was always there when we did the process tests. It was a lot of fun to have him there, and we liked the same things, so we went with the CCE process.

"Once we decided on the look, we had a meeting with all of the departments, because CCE really affects the contrast and blacks in the images," he continues. "Ian Robinson was our contact at Deluxe London, and we consulted very closely with him. The costume designer, Colleen Atwood, was doing a lot of stuff in





Each softbox was powered by twin 200kw generators that also powered the Lightning Strikes units.

In addition to lights that were permanently rigged, each building had a 100-amp power supply installed. Much of the cable was buried and landscaped over.

Cranes could retract-boom, rotate-boom and elevate, enabling the possibility of positioning a light above most parts of the set at various heights. Crane positions were chosen with the aid of a scale model of the set and scale models of cranes to provide maximum coverage of set with minimum restriction on shooting direction. The crane bases did not move.

The roof of each softbox contained 6 24-light Maxi-Brutes, while three of the sides contained a trio of 9-light Maxi-Brutes. Each box also had a 70kw Lightning Strikes unit rigged to its exterior. Diffusion on the lightboxes consisted of tough gridcloth.

Maximum amount of Lighting Strikes: 9x70kw. Mobile power available close to three megawatts.

black, but after the tests she began adding bits of silver and other enhancements to the texture of the clothes so we wouldn't lose the details completely. With Rick Heinrichs, we would paint 8' by 4's with the colors he was planning to use for each set, and then shoot them, project the footage, discuss it and revise the colors. The color red was particularly affected by the process — it became really dark, sometimes so dark that it was almost black. We had to be really careful in the way we lit things. If you went into one of our sets while we were shooting, you'd have thought we were doing a soap opera, because everything looked really overlit. When we saw the dailies, though, everyone would say, 'Wow, this is really dark and moody.' You always have to factor in the effect that the process will have on the images. The first week of the show was miserable for me, and many many times I wanted to kill myself for deciding to work with the CCE process, but when you see the movie from start to finish, it looks really good."

Asked to outline some of the problems he encountered with CCE, Lubezki offers, "The thing that's really difficult about the process, which almost made me chicken out, is what it does to the actors' skin tones. Because there's so much contrast and the gamma curve is so steep, the skin tones can look blemished if you're not careful. I don't like to use much diffusion, and I usually don't mind when you can see some imperfections in the actors' faces — as long as those imperfections don't take you out of the movie. On this picture, though, I wish I had used just a little more diffusion."

Lubezki was also careful to monitor his use of smoke, which added some Hammer-like ambience and helped to reduce the dramatic contrast produced by the CCE. "There are some elements in the film that might be viewed as 'cheap,' such as the heavy use of smoke, but in a weird way, those elements help to make the images more beautiful and interesting," he submits. "Using smoke also allowed us to get a consistent look for the movie. When all of the sets are smoked, you can't tell what was done on a stage and what wasn't. I didn't want the light to be too baroque, with all kinds of backlights, kickers and little lights. Most of the lighting was created with very big sources, so you can't really tell where the light is coming from.

"In the Western Woods set and at some of the other locations, you can definitely see the smoke — it looks like the fog they used in the old Frankenstein and Mummy movies!" he exclaims with a laugh. "Balancing the smoke therefore wasn't much of a

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problem on the exterior sets, but it became really complicated when we used it in a smaller set like Ichabod's room, where I didn't want the audience to feel the smoke. It's difficult, but after a week of using smoke you get a better feel for the proper level and how much is too much. Our use of smoke was also dependent on the CCE process. In our case, we could use more smoke, because we knew that the process would 'see through' it. The smoke affected the blacks, but the process also affected the blacks in the opposite way, so everything balanced out.

"Of course, if you're going to use smoke, you have to live with the limitations," he points out with a grimace. "One problem with using smoke was that sometimes, when we were working outside with our big cranes, the smoke would reveal where the light was coming from. That drove me insane, and I lost the battle a couple of times; in two or three shots, I had to beg the visual effects team at ILM to erase the light that was closer to the cranes, or to take the edge off."

Another atmospheric touch was the use of "lightning flashes" whenever the Headless Horseman appeared in a scene. "Usually I hate lightning as an effect, because it has the potential to take the viewer out of the movie a bit," Lubezki says. "If it's supposed to be raining, it's fine, but otherwise it can be a bit much. When we did tests with the Headless Horseman, though, we found that the lightning really added a lot of energy to the character — it made him more impressive, scary and Burtonian. Every time the Horseman is going to kill someone, the lightning appears as dramatic punctuation. The problem with lightning is that it really affects the editing of the movie. If it's really fast-paced in one cut, and you go to a shot where the lightning doesn't match, you start to feel this lack of freedom. It took us a while to learn how to keep it constant without obliterating the images with lightning. It looks really interesting when you're shooting it, but you have to control yourself!"

Lubezki notes with a chuckle that the use of lightning gave Burton the chance to play God on the set. "I gave the Lightning Strikes control box to John Higgins, but Tim always told him when to cue the flashes — he would sit there and signal John by twitching his index finger. Since Tim would be so heavily involved in the editing, we felt that it would be best if he was responsible for the rate and speed of the lightning. I guess that's one of the perks of being a big-time movie director!" ■



Head Trip

With *Sleepy Hollow*, director Tim Burton lends his unique creative sensibility to the tale of Ichabod Crane and the Headless Horseman.

Interview by Stephen Pizzello

Unit photography by Clive Coote



With his keen pictorial instincts and his affection for all things fantastic, Tim Burton is a lightning rod for eccentric, stylized images — which may explain his distinctly unruly coiffure.

Raised in Burbank, California, Burton grew up on a steady diet of classic horror films, and spent much of his youth drawing outlandish cartoons and illustrations (including an anti-littering poster that embellished local garbage trucks for an entire year). He attended the Cal Arts Institute on a Disney fellowship, and later joined Walt Disney Studios as an animator, lending his talents to such projects as *The Fox and the Hound* and *The Black Cauldron*.

While toiling at Disney, Burton made his directorial debut with the stop-motion short *Vincent,* which told the autobiographical story of a young boy who wants to emulate his hero, horror icon Vincent Price. The film won a number of awards, including two from the Chicago Film Festival, and marked Burton as a talent worth tracking.

His next project for Disney, *Frankenweenie,* was an amusing black-and-white effort about a young boy who uses mad-scientist methods to revive his dead dog. After this initial foray into live-action filmmaking, Burton left Disney to pursue his own path. His first full-length feature, the surreal comedy *Pee-Wee's Big Adventure,* was a hit at the box office, and paved the way for a succession of imaginative efforts: *Beetlejuice* (see *AC* April 1988), *Batman, Edward Scissorhands, Batman Returns* (*AC* July '92), *The Nightmare Before Christmas* (as producer, see *AC* Dec. '93), *Ed Wood* and *Mars Attacks!* (*AC* Dec. '96).

Burton's latest picture, *Sleepy Hollow,* is based on Washington Irving's classic 1819 short story *The Legend of Sleepy Hollow,* but inventively retools the legend of Ichabod Crane and the Headless Horseman. Inspired by his affection for classic horror films, the director sought to imbue the production with a look and feel that recalled the spirit of England's Hammer Studios. He took a break from his busy postproduction schedule to speak with *AC* about his creative strategy on the project, as well as his collaboration with director of photography Emmanuel Lubezki, ASC, AMC.

American Cinematographer: **You reacted very enthusiastically to the script for *Sleepy Hollow* [which was adapted by Andrew Kevin**

Photos courtesy of Paramount Pictures.

Walker and Kevin Yagher, and polished by Tom Stoppard]. What excited you most about the material? Was it the story itself, or the inherent visual possibilities?

Tim Burton: Both, really. I was familiar with the original story because I'd seen the [1958] Disney cartoon *The Legend of Sleepy Hollow* — I didn't actually read the source novel until after I'd seen the script. Most kids in America have never read the book either, but somehow they all seem to know about the Headless Horseman.

A big reason that I liked the script was that it reminded of one of those old Hammer horror films. It had a fresh take, but it also respected the source material, which has a very Germanic tone. I always like a good fairy tale, or any story that has symbolic meaning. This script had a good, strong folktale vibe that I liked very much. I was particularly drawn to the idea that Ichabod Crane is this guy who lives inside his own head, while his nemesis has no head at all! That juxtaposition was interesting to me; it really worked on a symbolic, almost subconscious level.

When you're reading a script, do you immediately begin seeing the story in pictorial form?

Burton: I think more visually than not, so I'd have to say yes to that question. I don't rely completely on that process for my eventual approach to a movie, because a lot of other things come into play later on when you start casting people, building sets, and so forth. But this script did get my mind going in a very visual direction. That type of strong visual response happens more often when a story really speaks to you personally.

You mentioned on the set that you were partially inspired by the look of Mario Bava's 1960 horror film *Black Sunday* [a.k.a. *La Maschera del demonio*]. What specifically do you like about that film?



Opposite: Burton gives actor Johnny Depp some tips on how to perform a proper autopsy. This page: Proving the point that love can be painful, Burton applies some faux "puncture wounds" to real-life paramour Lisa Marie, who plays a victim of that tried-and-true torture device, the Iron Maiden.

Burton: I love the imagery. I saw *Black Sunday* at one of those horror-film festivals that last a whole weekend. The people who stay through all of the continuous showings start to drift in and out of consciousness a bit [laughs], and certain films really have an impact when you're in that state of mind! Out of all the films they showed that particular weekend, *Black Sunday* really stood out for me, because it had very lurid, vivid and stark images, which is what you want from a good horror movie. Some of the old Mexican horror films have that quality as well. They're so strange and strong that they become almost like a dreamscape when you're watching them. The best movies in the horror genre have a good mix of imagery and subject matter, and they just dive right into your subconscious.

Did you have any other visual inspirations, such as paintings or sculptures? Did you discuss your various influences at length with cameraman Emmanuel ["Chivo"] Lubezki?

Burton: I try not to draw too heavily on those types of influences, because then you're just trying to emulate something as opposed to creating something new. For example, the influence of the Hammer films didn't result in a rigid visual scheme; it was more the *idea* of those films that inspired us. One of the things I like about Chivo is that he *gets* that — he understands that when we're talking about a potential influence, it's not literal. I might like to draw a certain feeling or flavor out of an older movie, but I'm not trying to make a Xerox copy of it. In actual fact, the idea of what Hammer was is quite different than the reality. Those films weren't necessarily technically superior, but people love them anyway. They're often more intense in your memory than they are when you actually watch them again.

What inspired you to hire Lubezki as your director of photography? Were you familiar with his previous work?

Burton: To be honest, I wasn't overly familiar with Chivo's previous films, but I knew a few people who had worked with him. I don't analyze or look too deeply into a cameraman's body of work, but I certainly was aware that he was good. I don't necessarily base my decisions entirely upon a person's resumé; it really comes down to whether or not I click with him or her. When you're working on a film and standing right next to someone every day, you want to make sure you're both on the same general wavelength. Chivo is a great guy, and I felt a real connection with him. He also works very fast; I never had to wait for him. The collaboration was a real pleasure, because Chivo is a very thoughtful person who is able to understand and enjoy

Head Trip

Despite the array of logistical difficulties they confronted on the set, Burton and Lubezki managed to keep their heads together.

the constantly evolving aspects of a film project.

How did the two of you break down the responsibilities on the set? Did you get very involved with the camera and lighting issues?

Burton: I was more involved on the conceptual level, but Chivo and I would certainly talk about those issues. Part of the charm of filmmaking is that it's not an exact science — I find it to be a very organic process. There were a lot of technical issues on this film, so it wasn't like we just went out there and shot things casually. Every shot involved a certain amount of 'manufacturing,' but someone like Chivo makes that process fun, which is the way it should be. When we were addressing a specific shot, we'd talk about the various elements we needed, and then change things as necessary. That's why it's nice to feel comfortable with your key collaborators; if you're on the same wavelength to begin with, you know that everything will turn out fine, even if you're whipping something together on the spot. We sort of felt as if we were making the world's biggest Mexican horror film. [Laughs.]

How much of the film was planned out in storyboard form?

Burton: We did do some storyboarding, but I've found that over the years I'm using them less and less. Storyboards can sometimes confuse people instead of helping them. Generally, the people who want to see the storyboards tend to get too rigid in their adherence to them; they focus entirely on the boards and they lose sight of the big picture. On *Sleepy Hollow,* we had to do storyboards for certain sequences, but we tried to simply use them as guidelines without relying upon them too heavily.



Chivo said that you considered shooting the film on location in upstate New York, but later decided to go for a more stylized look that combined sets constructed in soundstages and at locations outside London. What was the impetus for that decision?

Burton: Listen, I'd never have bet a million dollars that I'd ever be doing a movie where the people were dressed like George Washington! I mean, Dutch Colonialism is not what you'd call the most dynamic lifestyle in the world — it's not coming back into fashion any time soon, you know? [Laughs.] In order to bring the story back to its folktale roots, we wanted to have a strong, controlled visual environment. We didn't want the movie to fall into this naturalistic rut where you'd have a bunch of people dipping candles and watching them dry. That's not the most exciting thing to see at the movies.

Working at Leavesden Studios was a decision based mainly on cost. The facilities had the amount of space we needed, but the stage heights were very low. I've worked in England before [on *Batman*], and the film industry there offers everything you need, including great crew people and artisans. To me, if you're doing a heavily designed movie, the only two places where you can really do it right are Los Angeles and London. Even New York doesn't have the same level of resources that those two cities offer.

How fine a line were you trying to tread in terms of creating a pictorial but slightly artificial look? Lubezki said the use of smoke factored heavily in the equation.

Burton: We were trying to create our own reality for the film — a fantasy feel that would still seem *real.* I think that's important in a movie like this, because you don't want it to feel completely phony. I feel very good about what we achieved. I hate using smoke, but on this film we used it in almost every



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shot, because it really helped us to hide the stage ceilings and create some atmosphere. That was our biggest nightmare, because smoke can be hard to control and it's very unpleasant to have to breathe it in all the time.

How would you compare working on the stages with your location-based sets? Which situation did you prefer?

Burton: Any time you're in one of those places for enough time, you start to long for the other one. When you're stuck in stages for awhile, you say to yourself, 'God, I can't wait to get outside,' but once you get outside you think, 'I'm freezing my ass off, I can't wait to go inside again.' [Laughs.]

One of our biggest challenges on this show, which Chivo and I discussed quite a bit, was making the setbound scenes match with the location stuff. In those old Hammer films, you could *really* tell when they were on a stage, and when they were on location. We did our best to kind of bridge that gap and blend the sets and locations into a seamless whole. Quite often, sets can feel very claustrophobic, and when you're shooting 'exteriors' inside, it's very difficult to make it seem as if you're someplace other than a soundstage. In this film, though, there are many shots set in the forest that have a sense of sky that feels real, which is amazing to me. The scenes breathe, and they have an openness that's quite effective. Chivo did a great job on that.

You also shot some complex action scenes, including horsebound chases, within the soundstages at Leavesden. That must have been a challenge.

Burton: In a way, it really helped to have standing sets at Leavesden, because we didn't have to strike them immediately. That allowed us to build upon those sequences if we had to. We were editing during production, so we could look at our action footage to see what we'd gotten. If we needed any other shots, we could just go back into the sets and grab them.

The chase scenes were definitely a bit of a challenge, though. We used a flight shed at Leavesden that was long and narrow, but it still didn't give us much of a run. When you've got to time horses with stunts and everything else, you're lucky if you can get three seconds of usable footage in one go. For those scenes, we used a Jeep-like [Barbour All-Terrain Tracking truck], which we nicknamed the 'Batmobile.' It had a Libra 3 remote head mounted on its hydraulic lift to help us control any jitter. The Batmobile came in quite handy, because we could get it up to speed really quickly and maximize our runs.

What made you choose to use Deluxe's CCE process over some of the other special lab processes?

Burton: We just felt right about it. Using that type of process is like picking out the right colors for the set, the right costumes, or the right music. You just treat everything as if it's part of the fabric of the film. Chivo and I both agree that you don't ever want to do something as a gimmick, you just want to feel that it's right. You may do something in one movie that you'd never do in another; you just have to deal with each project on its own.

Chivo mentioned that you generally worked in a lens range between 21mm and 40mm. Did you simply feel that a wider perspective was right for this project?

Burton: I usually gravitate toward wide lenses, but I'm not sure why. Maybe it has something to do with my background in animation — I just like to *see* things. We also wanted to make *Sleepy Hollow* like an old-fashioned movie, so that range seemed right. We didn't necessarily plan specifically to stay within that range, we just wound up doing it. We did use a couple of longer lenses here and there, but the range you

mentioned seemed to fit what we were doing.

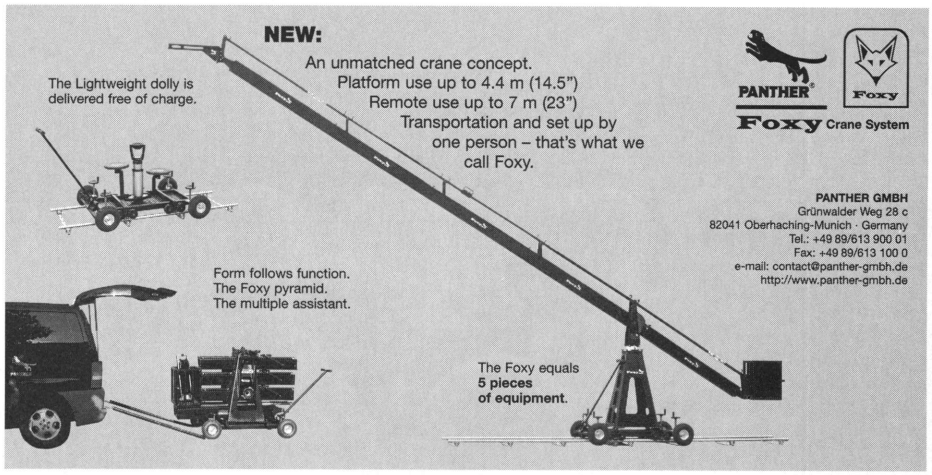
We shot in 1.85:1 for the same reason. I do love widescreen, but until they start showing films more completely on television or on video, it's too painful for me to watch only half of my film on the screen.

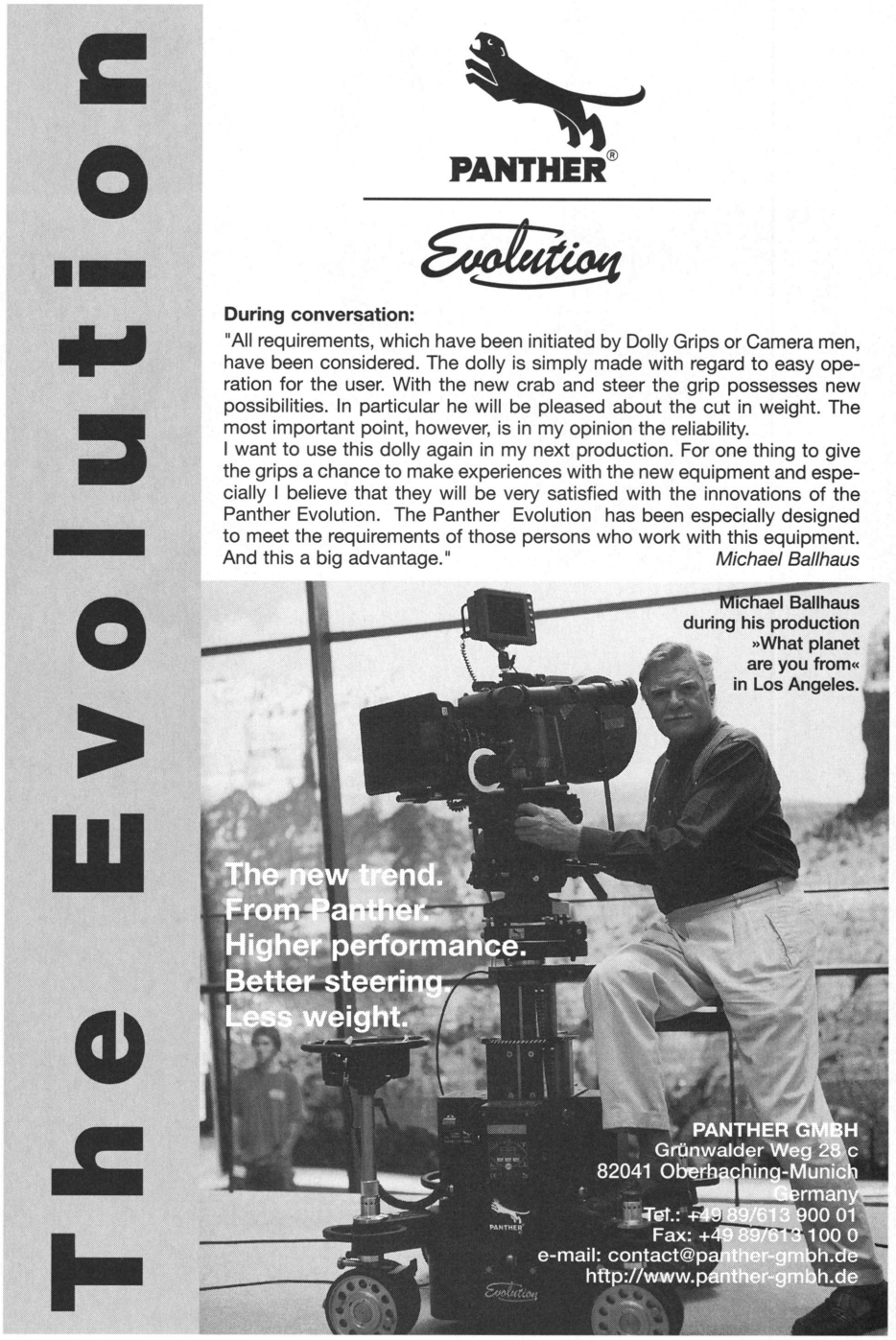
Apparently, you used Steadicam quite sparingly.

Burton: That's true, but Chivo and I agreed that we should only use that technique when it was appropriate. Often when you see that kind of stuff in a movie, it's a bit showy and it takes you out of the narrative. We only did it when it felt right for the story. The Steadicam work in *The Shining* was great, but it was perfect for that particular story.

What type of balance did you strike between digital effects and more traditional special effects?

Burton: We've tried to do as much of the effects work live as possible. We wanted to keep the digital stuff to a minimum, which is one of the reasons we built so many sets, and pumped so much smoke into the rafters. As amazing as digital technology is, you can still feel it on the screen while you're watching a movie — there's a certain *thinness* to it. To my mind, when you know that anything is possible technically, it tends to diminish a film somehow. Digital technology is very interesting and certainly has its place in filmmaking, but when you're watching a movie like *Black Sunday* you really feel as if you're *there*. When you combine the stagebound sets with the actors, their costumes and everything else, you really feel as if you're within that particular world, because it has a more human quality. There might be a certain shot looking down on a town that's done with a cheesy miniature model, but it still somehow feels real in the context of the film. In other words, even though it's unreal, you still feel the reality of it. That's the vibe we were trying to capture on *Sleepy Hollow*. ■





Paging 007



Cinematographer Adrian Biddle, BSC helps director Michael Apted modernize James Bond for *The World Is Not Enough.*

by Ron Magid

Unit photography by Keith Hamshere and Jay Maidment

Even seemingly tireless British secret agent James Bond could use some rejuvenation after 18 big-screen adventures, so on "Bond 19" (as *The World Is Not Enough* was referred to during its production), producers Michael G. Wilson and Barbara Broccoli made a rather surprising directorial choice. "I thought they were joking," admits a laughing Michael Apted, recounting the meeting in which he was offered the reins of the new 007 picture. "When it became clear that they were looking for something a little bit different — that they wanted to beef up the drama a bit and get the stuff between the action scenes in better shape — the choice began to make sense."

Suitably enough, the plot of *The World is Not Enough* focuses on the film's characters. Feeling responsible for the death of a British oil tycoon and friend who perished in a terrorist bombing at MI6 headquarters, Bond (Pierce Brosnan) decides to protect the tycoon's daughter, Elektra King (Sophie Marceau), against harm. In turn, 007 is threatened by Renard (Robert Carlyle), a psycho whose brain contains a bullet that blocks all physical pain. The super-agent is aided by the lovely Dr. Christmas Jones (Denise Richards) and Russian crime boss Valentin Zukovsky (Robbie Coltrane), as well as his associates on her Majesty's Secret Service: M (Dame Judi Dench), Q (the veteran Desmond Llewelyn), Miss Moneypenny (Samantha Bond) and R (John Cleese).

Apted's filmography is quite diverse and includes both award-winning documentaries (including *Seven Up* and its four continuations) and acclaimed features (*Coal Miner's Daughter, Gorillas in the Mist, Nell*). However, no one would have predicted a James Bond movie in his future. "Women were very important to this Bond film, and I've done a lot of work with women," Apted reasons, "so from my point of view, it was just a terrific opportunity at my age to start learning all of this new stuff! Fortunately, there were a lot of very good people already in place, and I leaned on them heavily — I wasn't reinventing my own wheel."

Apted did insist on bringing in his own editor, Jim Clark (with whom he had collaborated on *Nell*), and a cinematographer he admired but had never worked with before: Adrian Biddle, BSC. The director knew about Biddle from the cameraman's long association with director Ridley Scott. Biddle began working for Scott in 1970 as a clapper/loader on commercials, and later served as a

Photos courtesy of MGM/UA, Eon Productions, and Digital Film.

camera assistant on *The Duellists* and *Alien*. He advanced to cinematographer on dozens of commercials and the Scott-directed features *Thelma & Louise* (which earned the cameraman 1991 Academy and BAFTA Award nominations) and *1492: Conquest of Paradise* (see *AC* Oct. '92). Biddle's feature credits also include *Aliens*, *The Princess Bride*, *Willow*, *101 Dalmations*, *Event Horizon* (*AC* Aug. '97), *The Butcher Boy* and the recent remake of *The Mummy*. "Adrian was someone whose work I'd liked for a long time," Apted remarks. "He'd done a lot of work that I thought was very important, and his resumé had a lot of range: he had done a huge amount of action work and big-budget stuff, and he had demonstrated a great ability to light women. He seemed to be an ideal choice.

"You never know how people will respond to the offer of a Bond film, but I met with Adrian and he seemed really excited by it — I knew he was the guy. He and I spoke the same language, and yet he'd also had experience on these very big-budget films, which I hadn't. Since I was trying to beef up the drama, the most important thing to me was to work with someone who understood drama and who could effectively photograph actors. Adrian just seemed to cover many bases."

Interestingly, *The World Is Not Enough* isn't Biddle's first Bond film — he had a small hand in the shooting of the action-packed toboggan chase in 1969's *On Her Majesty's Secret Service*. "I was just a lowly clapper/loader," the cameraman admits. When Apted called, Biddle couldn't wait to shoot his very own Bond film. "They're really historical, aren't they?" he enthuses, speaking after a long days' shoot on director Kathryn Bigelow's upcoming thriller *The Weight of Water*.

Biddle had his work cut out for him, thanks to Apted's determination to reinvent the Bond "look," which





invariably involves exotic locales, imposing secret lairs, gripping action and beautiful women. "I believe that a Bond movie can look as good as any movie on Earth," Apted states. "We can't disappoint the fans who are waiting to see what they're used to seeing, so we still had to deliver the trademarks, but I think there's a bit more drama in this one than there has been in some of the others. I wanted it to have a richer, more complicated look than a straightforward action film. I was trying for much more emotion in this film, and I wanted Adrian to reflect that photographically by giving everything a slightly surprising look that wasn't just flat. Because I was going to take chances with the cast, I wanted him to take chances with the photography, and to reproduce the sort of work he'd done before without falling into the trap of second-guessing what people might want in a Bond movie. We talked about the look a lot, did a lot of scouts, and looked at a lot of action films that we liked, such as *The Fugitive*, *Speed* and *Die Hard* — films that had a lot of great action but still told good stories."

Biddle counters modestly, "Michael mostly wanted a mood for each scene, and that's what I hope I gave him, but we didn't actually set out with a definite look in mind. I really find the look in whatever I'm doing. In this case, it just grew out of the architecture, the sets, the story, and Michael's ideas. It was very natural. If Bond's going to make love, then I want that to be a low-key, moody scene. If he's going into a nuclear facility where the villain is stealing some bombs, that's also going to look moody, but in a different way than the lovemaking scene."

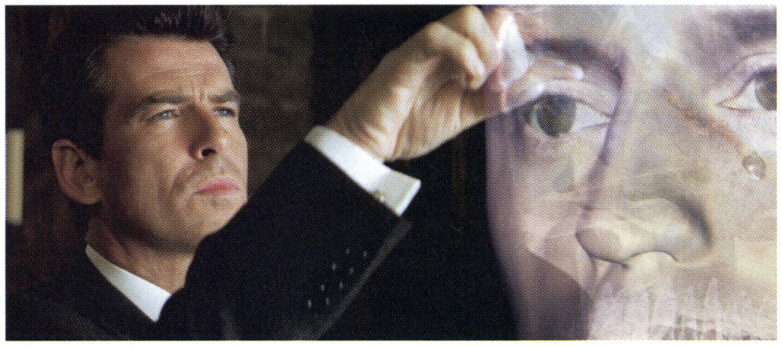
The globe-hopping *World Is Not Enough* production visited a variety of locations that included Charmoix, France; Istanbul, Turkey; Kyle of Lochalsh, Scotland; and Sydney, Australia. This extensive tour provided a few surprises for Biddle. For example, shooting a scene set near the shimmering, silver-walled

Opposite: James Bond (Pierce Brosnan) romances Elektra King (Sophie Marceau), who secretly plots against him. This page, above: Filming proceeds at Pinewood Studios, where the production staged several major action sequences, including this one set at a refinery complex in Azerbaijan. Left: *The World Is Not Enough* marks Brosnan's third outing as 007.

Paging 007







London-based Digital Film at The Moving Picture Company provided a number of impressive visual effects shots for *The World is Not Enough*. Top: Bond's latest gadget — a special pair of X-ray glasses — allows him to view concealed weaponry, among other things. Middle: A helicopter attack on a refinery complex was partially created with a series of miniatures photographed by Paul Wilson, with actor Pierce Brosnan composited into the shots later. Bottom: Bond examines a holographic 3-D projection of his nemesis, Renard (Robert Carlyle), which reveals the bullet lodged in the villian's brain. Volumetric rendering software allowed the internal structure of the skull and brain tissue to be visualized. The shot was overseen by Nigel Hardwidge, Digital Film's 3-D animation supervisor.

Guggenheim Museum in Bilbao, Spain, provided an unexpected turn of events when the traditionally warm, dry Spanish weather suddenly became rainy. Biddle elected to change his plan of attack on the spot. "In the scene, Bond is collecting some money in a building across the way from the Guggenheim, but Michael wanted a great backdrop, so he opted for the museum," Biddle says. "That was his call, which was really good, but because of the weather, it was a bit of a challenge to get the shots we needed." The cinematographer had anticipated shooting scenes set near the Guggenheim using short lenses, but switched to longer lenses in order to diminish the depth of field and minimize the appearance of any rain.

Once Bond grabs the money, he takes his leave through a window and begins rappeling down the building's wall to the street below — until one of the villains makes a desperate grab for Bond's rope, leaving him hanging precariously halfway down the side of the building. While the action inside the office was filmed on a set at Pinewood Studios using a TransLight backing of the Guggenheim, the stunt itself was shot on location in Spain. "Bond jumps out of the building in a wide shot, which was done by a stunt guy on a bungee rig," Biddle recalls. "We then built a 30' tower alongside the building and brought Pierce [Brosnan] up there to get some close-ups of him at the halfway point. The bloke upstairs who's holding the rope lets go and allows it to slide across the floor, which takes Bond the rest of the way down to the pavement."

Shooting *The World Is Not Enough* in anamorphic, Biddle relied on Golden Panaflex cameras outfitted with C-series lenses, supplied by Panavision London. Asked why he prefers this combination, Biddle replies, "The Panaflex is a really rugged camera, and I like the older lenses. They're more forgiving, and I think they're better 'movie' lenses. We also carried a [Panavised] Arriflex 435 with us for high-speed work. Although it's not a sound camera, the Arri has some really good things built into it, like speed-ramping and some other features."

Biddle used an array of Eastman Kodak film stocks on the film: Vision 500T 5279, Vision 800T 5289, EXR 5248, and EXR 5245. These emulsions were selected for their ability to cover a wide variety of shooting situations. "I like to use Kodak," the cinematographer remarks. "The range is all there, and I

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VIC ARMSTRONG: THRILL-SEEKER

by Ron Magid

The James Bond franchise may be the final holdout from the world of digital technology. During the course of 19 films, the creators of the series have prided themselves on the fact that the most spectacular images are created almost entirely in-camera. "The thing about Bond films is that the spectacular footage is all real stuff," states director Michael Apted. "On *The World Is Not Enough,* we used digital effects very sparingly. I think that's the hallmark of the franchise: it *is* dangerous and people *do* the stunts. It is truly man against man, or man against nature, and I think it shows. It takes a hell of a long time to shoot those kinds of scenes, which is why I had a second unit that was running the whole time I was."

Indeed, the emphasis on real action put a special burden and emphasis on the film's second unit, which was helmed by veteran stuntman Vic Armstrong, who had handled the same assignment on the previous Bond film, *Tomorrow Never Dies.* Armstrong began his lengthy association with the secret agent in the glory days of the late '60s, playing a Chinese assassin sliding down a rope in *You Only Live Twice,* and then stunt-doubling George Lazenby in *On Her Majesty's Secret Service* and Roger Moore in *Live and Let Die.* He was both the stunt coordinator and a stuntman on *Never Say Never Again,* and shot tests on Timothy Dalton's first Bond, *License to Kill.* Armstrong remarks, "Second units are really tough, because you have to try to match somebody else's style, and do what they want. You're part of a team, but that's what the game is all about."

Generally, Armstrong's second unit would come in after Apted's first unit had finished shooting with the principal actors. "We did the major sequences that way — including the boat, ski and helicopter sequences. It's by far the most economical way of doing it, otherwise there's so much time wasted and energy wasted — especially if you've got the actors there for a limited time. But there were times when we would go off and shoot whole sequences and then put the actors into them. In those situations, Michael's first unit became the good old insert unit!"

Perhaps the hardest part of doing good second-unit work is slavishly following the dictates of the first unit. "Sometimes you just have to subjugate your own instincts to make it cut with what's already there," Armstrong admits. "When you go into second-unit work, you have to understand that your objective is to match the other parts of the movie, which can be pretty tricky. You need to have a good crew with you. You have to get a good A.D. like Terry Madden, and a grip like Kenny Appethal, whom I think is the best in the world. Kenny puts a camera wherever I want it: on the river, on skis, underwater. I've also got a great cinematographer in Jonathan Taylor, who's a super technician and a very talented lad. On every shot we did, we tried to make beautiful action sequences. The night sequence with the helicopters attacking the factory was all backlit with fire and steam, and it's a very visual sequence. Even the skiing sequences were all backlit."

Armstrong sometimes had to place movie stars — as opposed to trained stuntmen — in the line of fire. For one sequence, the first unit had shot Bond making his escape from an exploding nuclear facility using a stunt double, but Armstrong was asked to pick up some close-ups of Pierce Brosnan. He quickly realized that he could stage the entire gag with the star in a single shot. Armstrong's goal was to have Brosnan swinging on a chain just inches ahead of an enormous fireball, which called for tremendous caution on all sides. "If you're going to do it completely safely, you do it with doubles," Armstrong says. "This is a classic case of putting an actor in the same position I've been in before myself, so I imagined that if I was hanging there on that chain. I wasn't thinking like I was somebody who selfishly wants a spectacular shot."

Armstrong and his crew set up the shot on the famed Bond stage at Pinewood Studios. As Brosnan swung on the chain, a series of pyro effects were triggered just seconds after the actor passed each of the charges. "You can see the fireball chasing Pierce, right on his ass," Armstrong says gleefully. "Because of the long lens on the shot, the explosions were going off 10 to 15 feet behind him, which was hell for the focus pullers because I only wanted to do the stunt once.

"There was a lot of pressure on everybody to get the shot. The special effects crew were cracking themselves because they had to fire the 'bangs' at certain lengths. If one of those things had been wired up wrong, which I've seen in the past, and one went off prematurely or out of sequence — i.e., in front of Pierce — he'd have gone right through the fire, you know? Although we dressed him up in a fire-retardant suit and other protective gear, the element of danger was still there. It was a money shot, and it worked — Pierce is as safe as pie and the scene looks great."

Still, Armstrong insists that no challenge was too great in terms of delivering the level of excitement that Bond fans crave. "This show was pretty tough, but I had great backing from the production, which gave me whatever I wanted," he enthuses. "I spent the budget of a medium-size film just on the second unit, but we delivered the goods!" ■





Top: Bond escapes certain death by sliding along a steel cable with the aid of a crowbar. Bottom: Wade Eastwood, Pierce Brosnan's stunt double, is cabled up to perform the maneuver, along with the camera that will record his feat. Note the safety line running out of Eastwood's shirtsleeve, securing him to the main cable.

know these stocks so well that I can almost shoot them without a meter. I used the 79 in nearly all of the interiors, the 48 for general exterior stuff, and the 45 — very sparingly — on big, wide daylight exteriors."

Preferring to have as much "bite" in his negative as possible, Biddle tends to overexpose slightly whenever he can to get the crisp edges and rich blacks that distinguish his edgiest work. "It's not the amount of light, really, it's the information on the film," he says. "I like to print down to get a good thick negative. I do that with all of my stocks, on all of my films, to really help the exposure. I hate to shoot wide-open all the time — anyone can do that. I'm not a big believer in a completely open aperture. I like to give the focus puller and the lenses a chance to be their best. I liked to build up the exposure a little bit and bring out the quality of the lenses by shooting at about T4.5 or 5.6. I'd do it all the time if I could.

"I also think Kodak tends to overrate the sensitivity of their stocks — except maybe the [100 ASA] 5248 — so I tend to rate them slightly lower than is recommended. For instance, with the 5279 and [Vision 5289] 800T, I don't think they're really 500 or 800 [ASA]. You can shoot them at that rating, but if you do, you're just going to have to use higher printing print lights. I rate the 5279 at just over 320 [ASA] and the

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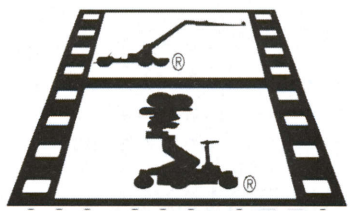


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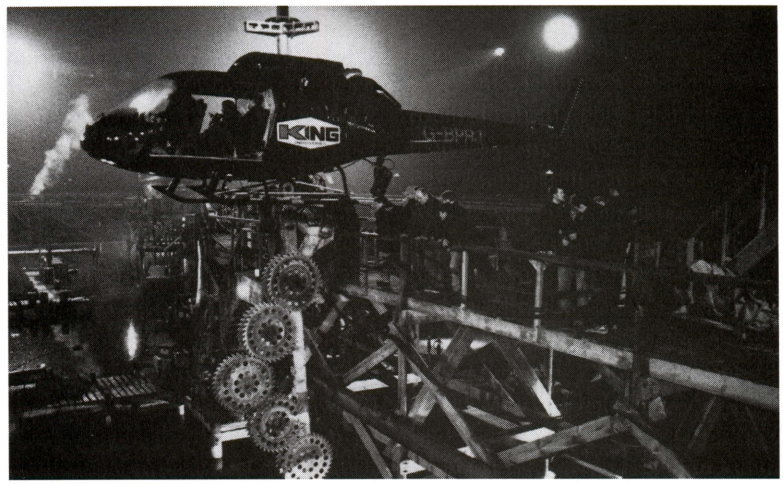
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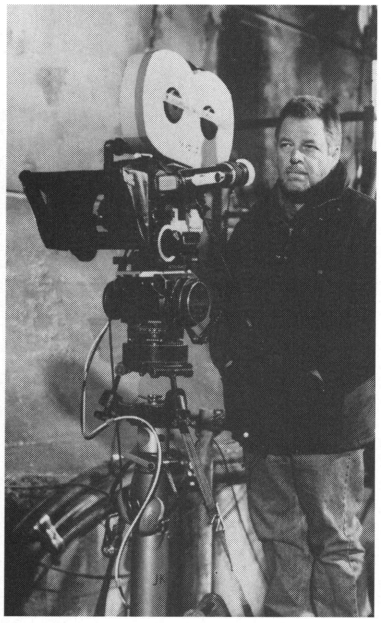
Above: The helicopter attack sequence was primarily filmed within an enormous Pinewood stage, utilizing a chopper suspended from huge shipyard crane. The aircraft's whirling blades would be added in post. Cameraman Adrian Biddle, BSC (right) used careful camera movement to enhance the apparent air speed of the helicopter, adding menace to the sequence.

800T at about 640 [ASA]."

Biddle utilized the 800T stock on exterior establishing shots filmed on a striking location in the oil fields of the former Soviet republic of Azerbaijan on the Caspian Sea. Here, a clandestine smuggling business has been founded by 007's former enemy, Russian crime boss Valentin Zukovsky, who was first seen in the 1995 Bond film *GoldenEye*. The decrepit exterior of Zukovsky's lair, housed in an old refinery, consists of rusted oil derricks surrounded by water. However, Zukovsky has converted the interior of the complex into a caviar factory. "We shot our exteriors on that location at magic hour, using just a few little practical lamps to give the scene some life," Biddle says. "I used the 800T on all the night exteriors there, which gave me a very particular look. The stock has its own quality as well — it's slightly browner. I quite liked that."

When the production moved back to Pinewood Studios to shoot the caviar-factory interiors (including an action-packed helicopter attack sequence), it was re-created as a massive interior/exterior set on the backlot. To enhance the apparent scale of the structure, production designer Peter Lamont (working on his 15th Bond film) added a huge black backing all the way around the set, which was fitted with forced-perspective catwalks and hundreds of fiber-optic lights representing distant oil fields. Asked if getting all those fiber-optic lights to read against the rest of the on-set lighting was difficult, Biddle insists it was never really an issue: "Funnily enough, it was such a big set that even with all of our lighting, we were only getting a T3 or [2.8/4 split]. We shot the whole scene at about a T4 with the 800T, so the fiber-optics showed up pretty well."

Biddle lit the inside of the factory primarily with Kino Flos, using them as hanging practicals. "The oil refinery was one of those sets where I walked in and just knew how it was going to look," Biddle explains. "It had a 'factory' look to it, so this was the logical lighting approach." However, the difficulty in lighting this set was not so much creating enough illumination as it was controlling its tone to support the varied action that was staged within it. This includes a comic scene in which Bond rescues Zukovsky after he falls into a giant vat of caviar, as well as the helicopter attack, which occurs shortly thereafter. Neither

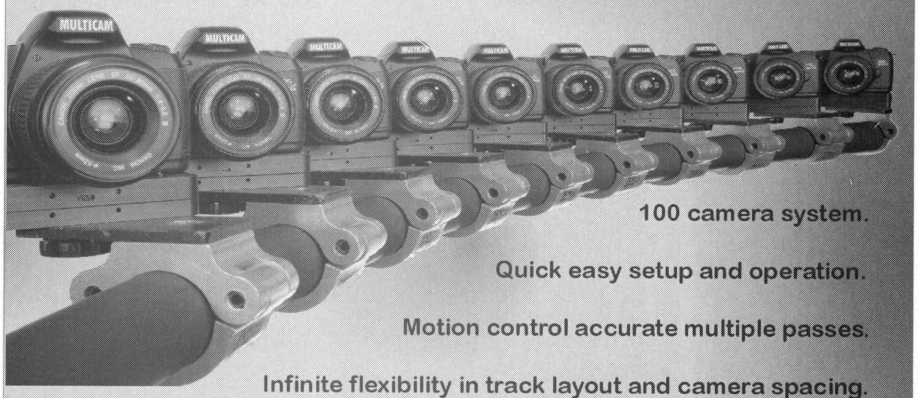


Apted nor Biddle wanted audiences to be laughing in the midst of the hard-edged action sequence. "The trick was creating the right balance between being comedic and not getting too much of a laugh, because the scene is supposed to be exciting as well," Biddle offers. "There's a line between making it sort of look stupid but not, you know? It's also an editing issue. Michael and I liked to shoot as much coverage as possible, and then sharpen it all up in the editing."

The intense beam of a police spotlight raking across the factory windows from outside heralds the start of the helicopter attack sequence, during which the craft uses belly-mounted circular-saw-type blades to slice its way into Zukovsky's lair — and to bisect Bond's BMW roadster. To create the illusion that the chopper is flying within the confines of the factory complex on the Pinewood stage, the prop vehicle was suspended from a huge shipyard crane, which was used like an immense Lydecker rig. Able to move in all directions, the helicopter was real in every detail, except that the rotor blades had been removed and would be later replaced with CG versions in postproduction. To add to its menace, Biddle "put these

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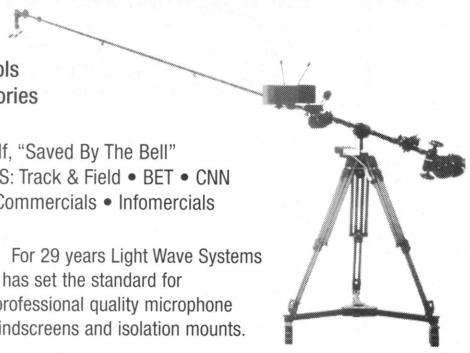
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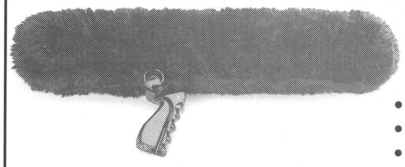
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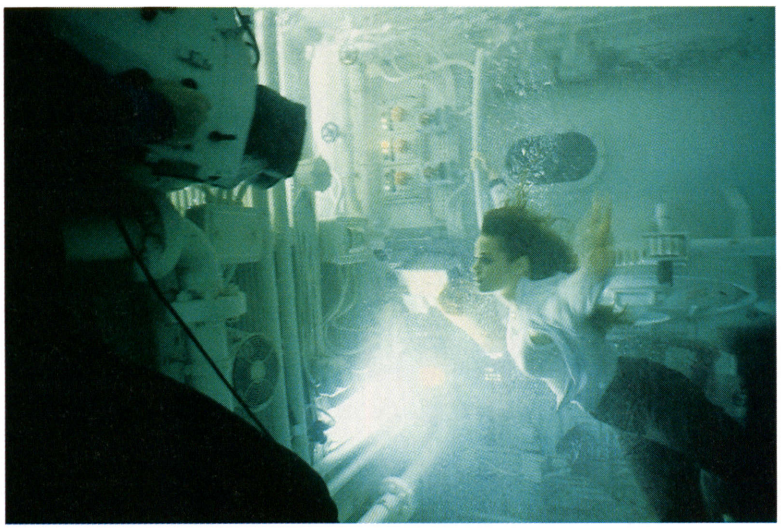
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Nuclear weapons expert Dr. Christmas Jones (Denise Richards) finds herself trapped in a sinking submarine. Biddle relied on watertight practicals — courtesy of production designer Peter Lamont — and camera housings to shoot the scene.

intense spotlights on the helicopter itself. The aircraft moved quite quickly, but not really quickly enough, so I'd move the camera counter to its movement to give it the right speed. Again, that scene will come together in the cutting. The second unit later shot footage of a real helicopter on location."

However, Biddle didn't want the only sources in the elaborate sequence to be the glaring police spotlights. His solution was to simulate the fires commonly seen during the oil-refining process, during which excess gas is burned off. This gave the filmmakers the option to utilize a variety of flame sources, and added contrast to the illumination as well, with the harsh spotlights cutting through a flickering orange glow. The fire effects themselves were created digitally, while Biddle created their practical illumination on stage.

The sporadic source lighting emitted by the fireballs erupting from the refinery was generated by 20K running on dimmers. "I think what we had about 20 of them, and we could simulate those explosions quite well by bringing them up," Biddle says. "I also added a bit of warmth for the fire, depending on how big it was supposed to be."

The gas-fire source motivation also helped the filmmakers adhere more closely to their script, which "described the rest of the scene as taking place in utter darkness," Biddle reports, "and then went on with three pages of dialogue. I had to light the scene so you wouldn't question where the light is coming from. It's what I call 'no-lights' light, and we had to key it with something other than moonlight."

Cool blue moonlight proved to be an important source elsewhere in the film, though, and Biddle generally creates his version of this lighting effect through some basic timing work. He details, "I don't particularly like the blue color of HMIs, so instead of using one of those, I'll use a tungsten source for the moonlight, and then warm up my interior lights with some sort of CTO for [temperature] contrast. I then have the lab to print the scene for normal skin tones, which makes my tungsten moonlight key go slightly cold."

Due to the epic scale of *The World Is Not Enough*, the caviar factory proved to be one of Apted and Biddle's rare opportunities to shoot an action scene in its entirety. The other action sequences were generally handled by up to three additional camera units, supervised by veteran stuntman and second-unit director Vic Armstrong (see sidebar on page 64), who handled similar duties on the preceding Bond film, *Tomorrow Never Dies*, and began his long association with 007 by playing one of the Japanese assassins in 1967's *You Only Live Twice*.

Despite the huge amount of work involved, Biddle regrets not being able to shoot every scene in the picture, as he had on such action- and effects-heavy projects as *Event Horizon* and *The Mummy*. "I would have loved to have shot some of the second-unit stuff, but our units shot [concurrently] for six months, so we couldn't have done it any other way. We'd still be shooting now!"

Apted, Biddle and Armstrong initially split the work up between the first and second units based on storyboards of each sequence. "We found that the storyboards didn't last

very long, though," Apted says with a smile. "Each sequence was a slightly different animal, a different challenge. Vic would do the scenes that were very stunt-driven, and then I would take in the first unit and do the extra bits and pieces we needed. Conversely, I'd take the action scenes that were more actor-driven, and then Vic would finish them up.

"There was so much to do that the division of scenes was really determined by whether or not the audience would be able to tell if it was the actual actor in the shot," Biddle adds. "There was no artistic thinking in that decision. It was more like, 'If you can't see it's Pierce Brosnan, it's second unit.' We generally started shooting on any given set first, even if it was for just a couple of days. That way, my gaffers could pre-rig the set, so the look and the lighting style was determined before the second unit went in; they could then go from there. I think that's really the key to getting good second-unit stuff."

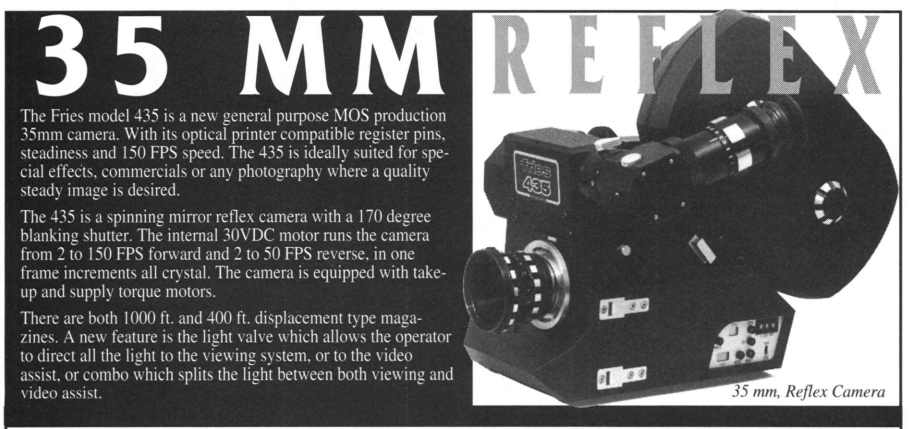
However, there were a couple of sequences that were shot by Armstrong and second-unit cinematographer Jonathan Taylor ahead of the first unit, including a stunning boat chase on the Thames River. In those instances, communication was vital to maintaining a consistent look. "I just made sure that I talked to Jonathan," Biddle says. "That sequence is a good example of why, when you go on a location scout, you've got to do it well. You have to determine, especially with the assistant director and the director, that you're going to shoot in one direction all morning, even if that means cutting up the scene and then doing the reverses in the afternoon.

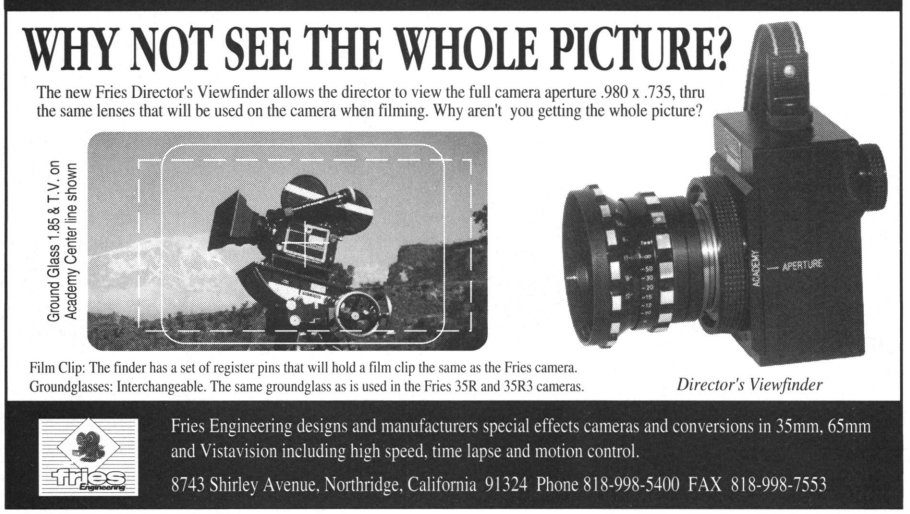
"They had a tricky task while shooing the boat chase, because the weather changed so many times — it was either raining or the sun was out. But my rule on exterior shooting is to always try to shoot things backlit, because then it's easier to match. If it gets overcast, they could move on to

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Paging 007

some sort of weather coverage stuff, but in the end, they'd have to keep shooting. When you see this scene, there will be shots where the sun goes in and out, but hopefully, the action and how Vic positioned things will help us get away with it. The boat sequence was difficult, but I think it turned out well."

In some ways, Apted and Biddle had an easier time of it when they came in after the second unit had shot the stunts. "By the time we got to shooting those scenes, they had usually been cut together, so we knew exactly what shots we had to do, which made things easier," Biddle remembers. "In general, the shots that they left over for us to do were all of the ones featuring Pierce, so it was an absolutely precise job."

Of course, shooting what amounts to a series of actors' inserts creates its own difficulties, particularly in terms of making those close-ups feel integrated into the overall action. For Biddle, the key to these dilemmas is movement. "You have to repeat what the second unit has done," Biddle explains. "That is, you design each of your shots so the editor can use them *instead* of what second unit photographed, although you then wouldn't have the big stunts. I think the best way to approach these inserts is to do them exactly the same way as you would do a standard wide shot. That way, the camera moves become more exciting, so when you cut to the insert shot, it just looks as if it's part of the sequence, and you might find that you can use a bit more of it in the scene."

Despite the epic scale of *The World Is Not Enough*, certain sequences are quite intimate, and required Biddle to rely on finesse rather than broad strokes. In one such sequence, Bond and Dr. Christmas Jones make an escape inside 007's inflatable coat. Supplied by Q, this gadget becomes a protective bubble, the interior of which resembles the inside portion of a

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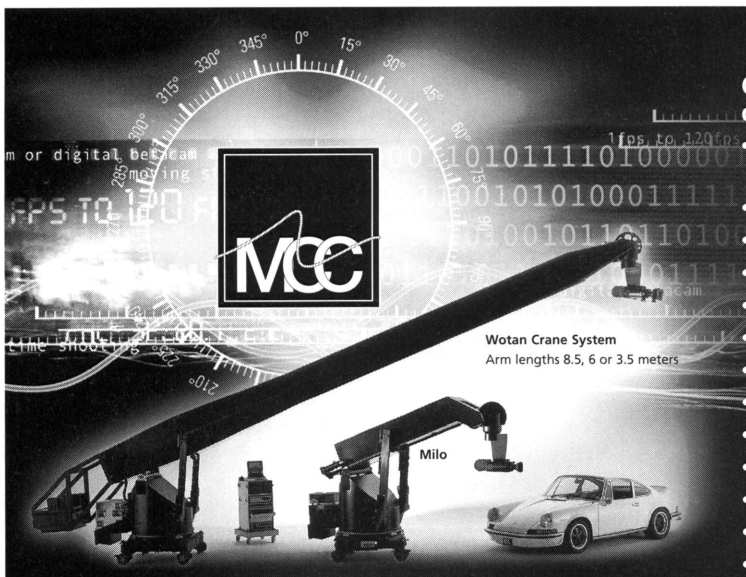
giant balloon. Biddle shot the low-key scene with 5279 and employed a favorite gadget of his own, a miniature Dedo light. Using Bond's illuminated watch as his ostensible source, Biddle served as a lamp operator and mimicked actor Pierce Brosnan's arm movements to keep the glowing watch face consistent with the Dedo's beam on the two actors. "I use Dedos quite a lot for eyelights and things like that," Biddle reveals. "The company's got all these different versions of them, and you can flag things up just with the barn doors on them. You can also hold a Dedo right in your hand, which is what I did for this scene. I just floated it around, bouncing the light off the inner surface of the ball. It was really easy."

An even more confined space was reserved for the film's climax, which takes place almost entirely in and around a sinking nuclear submarine. The vessel's main control room



set was built on a gimbal so the interior could rise in the air and tip over 90 degrees. For his lighting, Biddle relied on production designer Peter Lamont — his old colleague from *Aliens* — to insure that the proceedings could be illuminated almost exclusively with practicals. "Peter's done a lot of that stuff and knows what practicals to use," Biddle says. "I enhanced those a bit with my lamps, but I basically used the practicals. All of the Kino Flos, little bulbs and flashing lights in the sub had to be waterproofed, though, because the set literally went underwater."

While Biddle generally found that he was rarely short of the time or money he needed to practice his craft on *The World Is Not Enough*, he and Michael Apted were being pressured to complete the picture by the time they began shooting the submarine climax. "It was near the end of our schedule, and they wanted to get on with the cutting," Biddle says. "That set wasn't a very enjoyable place to be; it was very tight, and for certain scenes, everything had to be bolted down because when it went over and then down, everyone was working



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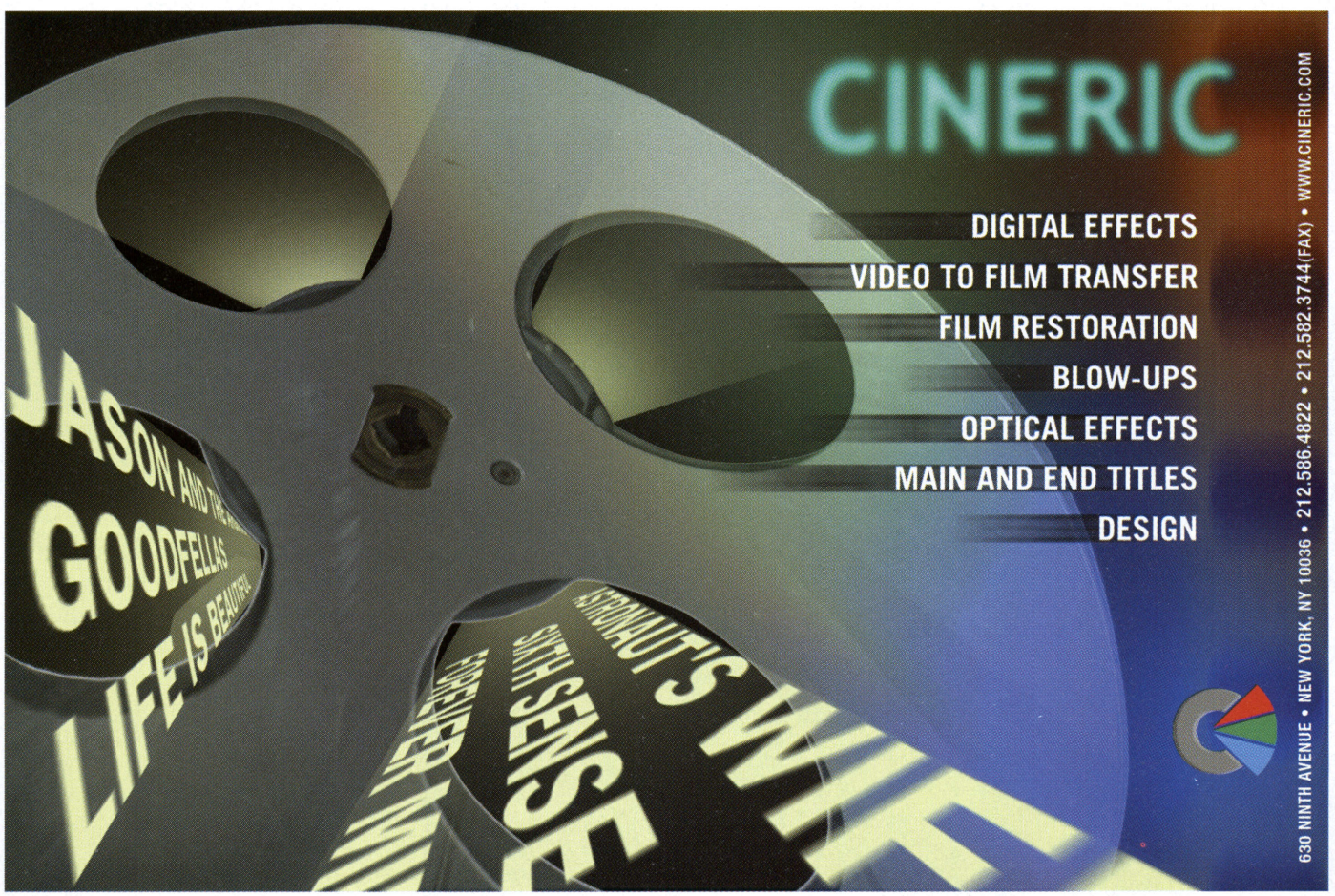
upside-down. The problem was how much time it took to do it, really, and it seemingly took forever. The way I look at things, if you've got the time, you can do anything."

Biddle left the shooting of the exterior underwater sequences, wherein Bond swims out of the submarine and comes back in on the deck, to Armstrong and Taylor. The trick there was matching the tank work done with Pierce Brosnan at Pinewood Studios with miniature photography shot in the Bahamas. The look of the clear tropical waters was difficult to re-create in the studio, so Biddle and Taylor did it largely through the lab rather than onstage. "We were going for this blue-green look because that's what they had in the Bahamas," Biddle explains, noting that water filters out various portions of the color spectrum at deeper and deeper points. "Blue is the next-to-last color to go, and all of the red is gone by that point. Because we were working at the blue point in the spectrum, the scene wasn't easy, but it was relatively straightforward to grade by taking out all the red."

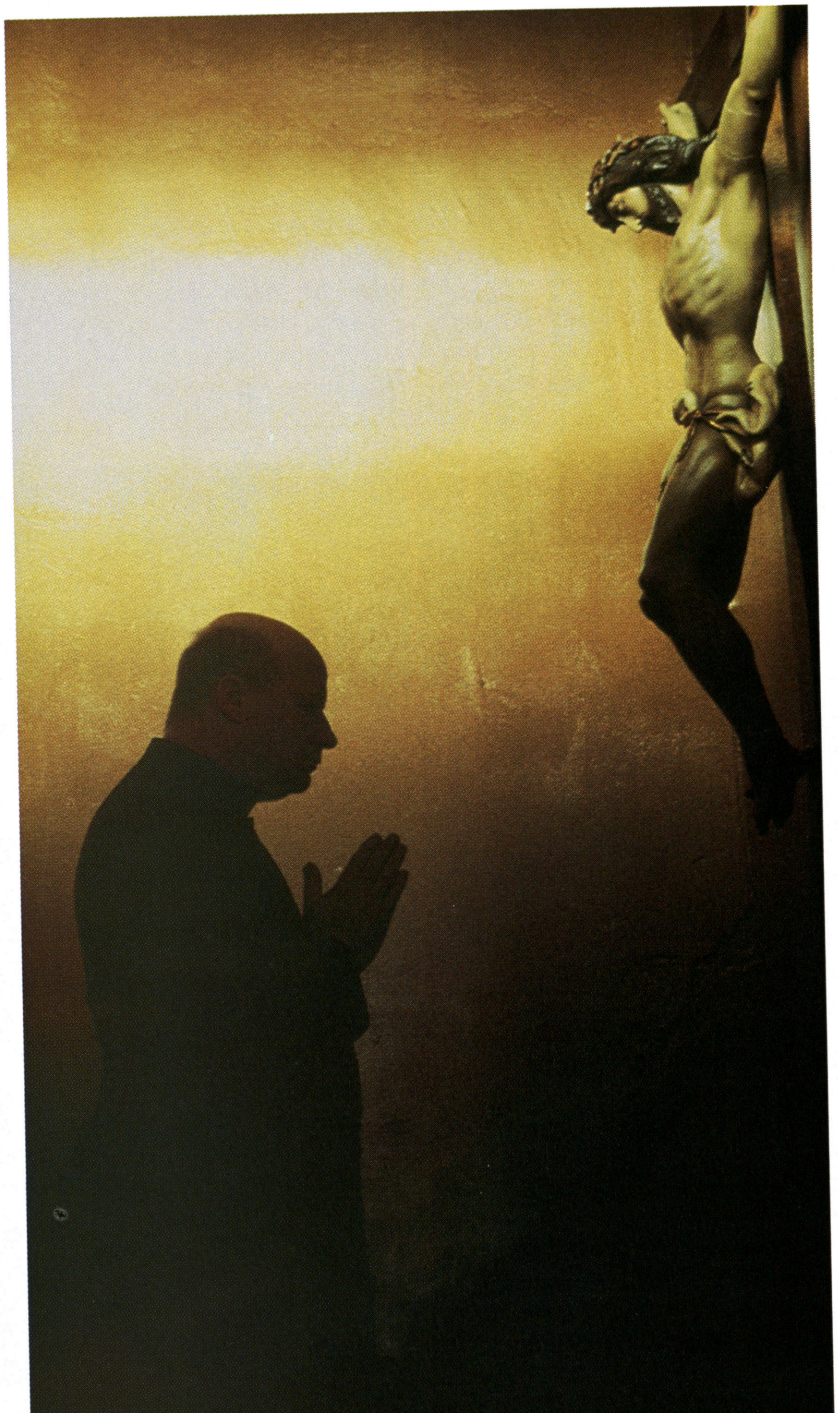


Opposite: Bond outruns his airborne foes on the slopes. This page: A special sled-mounted Arriflex 435 rig was used to help capture the alpine action sequence.

Despite the hard work and lengthy shoot — the film's first and second units both shot for well over 100 days — both Apted and Biddle are pleased with the result of their labors. "Although it was a fantastically long shoot by my standards, you couldn't want to work with better people than Adrian and Vic," Apted concludes. "I hope it's what people want and maybe a tiny bit more, you know? It's been terrific fun." ■



The Devil Made Flesh



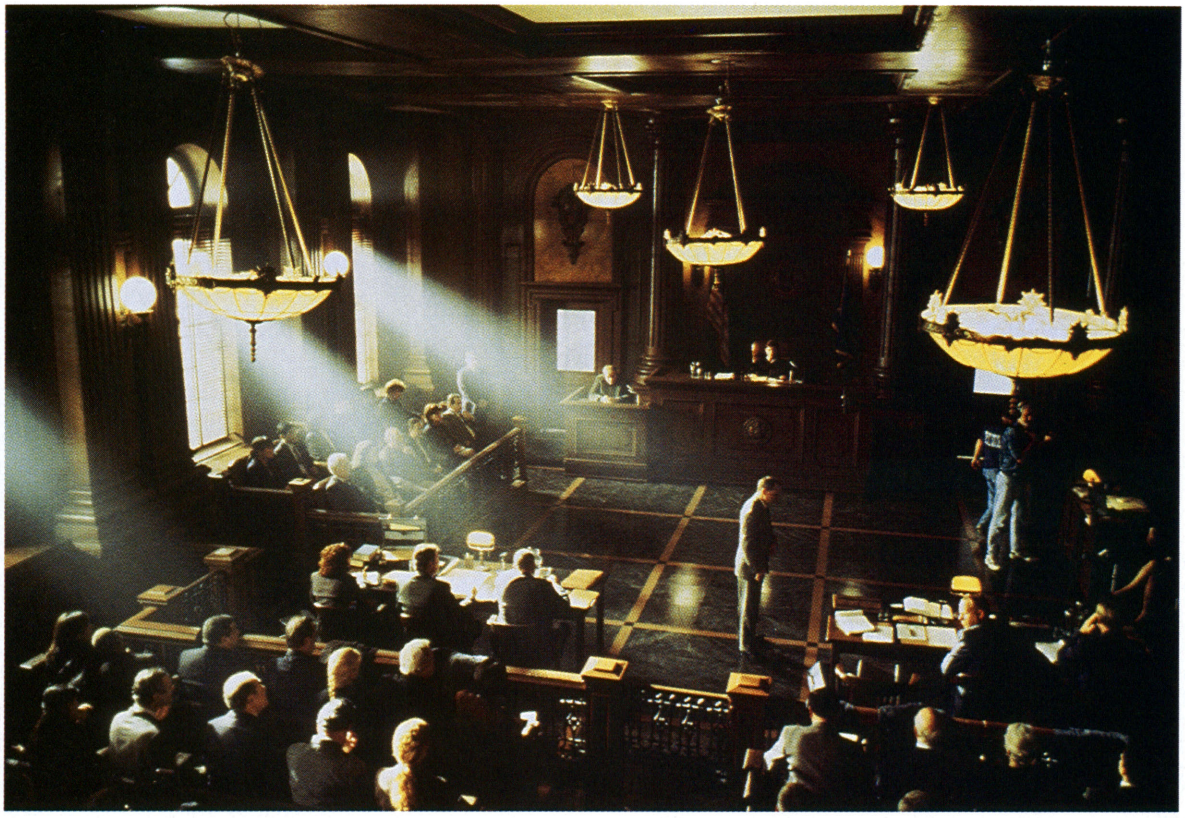
Director of photography Mauro Fiore helps award-winning cinematographer Janusz Kaminski, ASC make his directorial debut with *Lost Souls*, a unique supernatural thriller.

by Christopher Probst

Unit photography by D. Michaels

After winning accolades for his work on *Schindler's List*, *Amistad* and *Saving Private Ryan* (including two Academy Awards, as well as honors from the ASC, BSC and BAFTA), 40-year-old cinematographer Janusz Kaminski, ASC began looking for new professional hurdles. He got his wish when he was named director of New Line's supernatural thriller *Lost Souls*. "I've always viewed cinematography as a way of directly supporting the story, not as a way of telling the story on its own," Kaminski explains. "Having now directed a movie, I believe that even more. A cinematographer is truly there to support the story. Growing up in Poland, I was always fascinated by movies. I was intrigued by the whole process of

Photos courtesy of New Line Cinema.



Opposite page: Forces of evil test the fabric of faith in *Lost Souls*. The film marks the directorial debut of Janusz Kaminski, ASC, who entrusted the picture's photography to cameraman Mauro Fiore. "I definitely took some chances on *Lost Souls*," says Kaminski. "We did lots of jump-cuts in the editing, and the camerawork is very brave. The angles are interesting and Mauro's lighting is very bold. I was very interested in telling the story non-verbally. I find movies that are able to tell the story in a non-verbal way are more interesting than movies that are pure dialogue. I felt that this film needed [to employ] certain visual metaphors without beating the audience over the head with them." This page: A brief scene in a courtroom interior allowed Fiore to create Gothic shafts of light, but the filmmakers generally took pains to avoid the clichés of the genre. (In fact, this scene was eventually cut from the film.)

storytelling through a visual medium, but my general understanding of film was that there was a director, a story and a star. All of the other jobs — such as production designer, cinematographer and composer — were unspoken professions to me. In 1983, when I decided to go to film school at Columbia College in Chicago, I thought I was going to direct, because what else was there to do? However, once I learned more about what it took to make a movie, I fell in love with the camera."

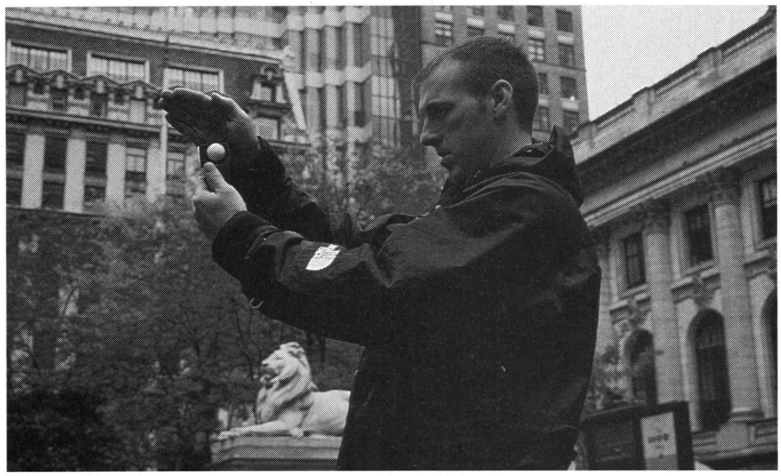
That formative experience proved instrumental to Kaminski when he faced the realities of helming a major studio picture. "I recently read an article in which someone was saying that you don't really have to go to film school to make movies," Kaminski relates. "That person also said that *Citizen Kane* was boring. In my opinion, it is necessary to get a formal film education in order to understand and learn the art of moviemaking. Going to film school for four years might be impossible for some people, but one should then perhaps take some extension courses at UCLA or USC, or attend one of the great workshops that the AFI conducts. It's important to get that kind of exposure, because moviemaking is not a skill that you're born with — you have to learn it. You can learn certain aspects of filmmaking by working on sets, but I think you'll miss the film theory and history, which helps you understand *why* things are done a certain way. Once you understand the rules and traditions, you can go you own way.

"If I hadn't gone to film school, the process of directing *Lost Souls* would have been much more difficult. I had studied screenwriting, production design, editing and directing. I cut film, created sound and did the mixing, so those processes were familiar. In fact, I was shocked at how similar the professional process is to what I'd done in school."

As a director of photography, Kaminski has worked with gifted directors, and surrounded himself with an enthusiastic and talented crew. This tight group of craftsmen has formed a strong family bond from picture to picture. Many of his crew members — such as key grip Jim Kwiatkowski, first assistant Steve Meizler and electrician Marek Bojsza — have worked on nearly all of Kaminski's films. "One of the greatest talents some directors have is hiring the right people," he observes. "They surround themselves with the right people and then allow them to do their best work. I think Steven Spielberg is brilliant in that way."

In that regard, Kaminski didn't hesitate to hire longtime friend and crew collaborator Mauro Fiore as his director of photography on *Lost Souls*. After moving to Los Angeles together in late 1980s, Fiore and Kaminski worked on low-budget film projects produced by Roger Corman. At the time, Kaminski was working as a gaffer and Fiore as a key grip, and the duo shared an apartment where they spent countless

The Devil Made Flesh





Top: Fiore on location in New York. He offers, "*Lost Souls* was challenging because I was working with a director who is also a cinematographer. There wasn't as much explaining of what I planned to do visually. It was more a matter of showing Janusz what I was doing and finding new techniques that he hasn't seen before." Bottom: Kaminski (standing in center) aligns one of the film's many car interior shots on the streets of New York. Dual Kino Flo banks (on the right) add to the soft ambient skylight. "Although we were a little bit stylized," says Kaminski, "I wanted to create a sense of reality. I didn't want any hard light — I wanted to have soft overcast light. There is very little direct sunlight in the movie."

nights discussing movies and filmmaking techniques. When Kaminski became a director of photography, Fiore stepped into the gaffer's role, and their teamwork culminated in the triumph of *Schindler's List*.

Born in Italy, Fiore immigrated with his family to the United States in the early '70s. He developed an interest in still photography at an early age. Soon after graduating high school, Fiore enrolled in the film program at Columbia College, where he met Kaminski and began collaborating with his new friend on school projects. After the duo had worked together for five years, Fiore decided to quit gaffing and focus full-time on becoming a cinematographer.

"I couldn't imagine doing this film without Mauro and my crew," Kaminski attests. "Fortunately, Mauro has worked with my other crew people for years. He and my key grip, Jim Kwiatkowski, are friends from Chicago, and he's known my first assistant, Steve Meizler, for more than 10 years. When Mauro stopped gaffing to become a cinematographer, he was either operating for me [on *The Adventures of Huckleberry Finn*] or doing second unit on films like *The Lost World* and *Amistad*. Mauro had also done several independent films prior to *Lost Souls*, so it was not his first picture as the sole cinematographer. Of course, he's my best friend, but I also felt that his style as a cinematographer was right for the story.

"I think *Lost Souls* was a very comfortable environment for Mauro to work in because he didn't have to worry about the competence of the crew members," Kaminski adds. "He also knew that I wasn't afraid of strong visuals. Because of that, he was immediately able to do the kind of work I think he always wanted to do. He could take chances, and I certainly encouraged him to do that."

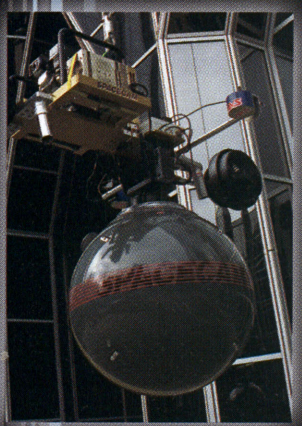
Lost Souls follows Maya Larkin (Winona Ryder), a Catholic schoolteacher who survives demonic possession at an early age, and grows up to work with Father Lareaux (John Hurt), the priest who helped her survive the ordeal. When she helps Lareaux perform the exorcism of an institutionalized murderer, she is given somewhat veiled information about Satan's plot to possess a man on his 33rd birthday. Deciphering the murderer's message, Larkin discovers that Peter Kelson (Ben Chaplin), a man with little faith in religion, is destined to play host to the devil himself.

In designing a look for this horrific tale, Fiore and Kaminski discussed prior films of the genre, and elected to avoid what had been done so effectively in such films as *The Exorcist* (shot by Owen Roizman, ASC), *The Omen* (Gil Taylor, BSC), *Jacob's Ladder* (Jeffery Kimball, ASC) and *Angel Heart* (Michael Seresin, BSC). Fiore explains, "After I'd read the script, Janusz told me that he wanted the film to be much more of a gritty, realistic drama than a stylized Gothic thriller. I read the script again and tried to figure out how I could participate in that regard. Janusz has a very different way of working than a lot of people do. It's not so much based on preconceived ideas, and he doesn't do a lot of theorizing. There's a certain quality that happens instinctually on films that he's able to capture. He follows his instincts at a given moment, rather than preconceiving what the experience should be. He's more improvisational in his approach. Obviously, that's a difficult thing to do in filmmaking."

"I wanted to create a certain kind of reality in terms of telling the story," Kaminski submits. "That







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The Devil Made Flesh





Above: The ballroom of the Biltmore Hotel, located in downtown Los Angeles. To illuminate this interior, 20' x 20' frames of Half Soft Frost were raised to the ceilings. Dinos were then positioned behind them and bounced into large sheets of muslin. Finally, 20' x 20' blacks and teasers were deployed to control the light. Right: For close-ups on Peter Kelson (Ben Chaplin) and his girlfriend (Sarah Wynter), Fiore would often bring in a second layer of diffusion closer to the actors to help wrap the light around their faces.

applied to the actors' performances, the environment the story was set in, the wardrobe, our decision to use the streets of New York and, of course, the lighting and production design. The whole thrust of the film depends on the audience believing the story. If the film was overly stylized, it wouldn't seem real; it would be a fable. Although *Lost Souls* is a stylized movie, it is still reality-based, which will help viewers more readily accept the story as something that could possibly happen. Every aspect of the look was therefore designed to fulfill that kind of reality. Exorcisms *do* exist, so you *could* conceivably pass by someone who is possessed by the devil without even realizing it."

Adds Fiore, "Janusz and I looked at a lot of still photographs and images from magazines that we thought could work for the film. Surprisingly, the images I cut out were very similar to the ones Janusz had cut out. They all had a cool, grainy, slightly underexposed and desaturated look, so during preproduction we decided on that palette for the film. There are few warm tones — just a few specific pieces of wardrobe over the sets. We went more into cooler tones, like blues and greens. We also played a lot with glossy paint so that we could add texture to a wall by shining a light on it and getting glare off of it. Every set was aged with varnish over the paint to give it an older feel."

During prep, Fiore performed three weeks of extensive exposure tests to dial in the project's distinct look. "Janusz doesn't like to look at tests that are just straightforward latitude or contrast tests," Fiore reveals. "Instead, we set up various situations with different types of lights and lighting. We experimented with neon lights, fluorescents, Kino Flos, China balls and large sources. Within that approach, we didn't just look at latitude and contrast; we staged dolly moves, shot through objects and created a language for the film. We shot night exterior tests on the Sony lot, where we wet down the pavement and used rain, smoke, and people walking through the frame or toward the camera. We tried to keep the tests very close to what we might actually do in the film, and involved everyone in the process. The production designer [Garreth Stover] brought in various pieces of glass that he planned to use on the set.

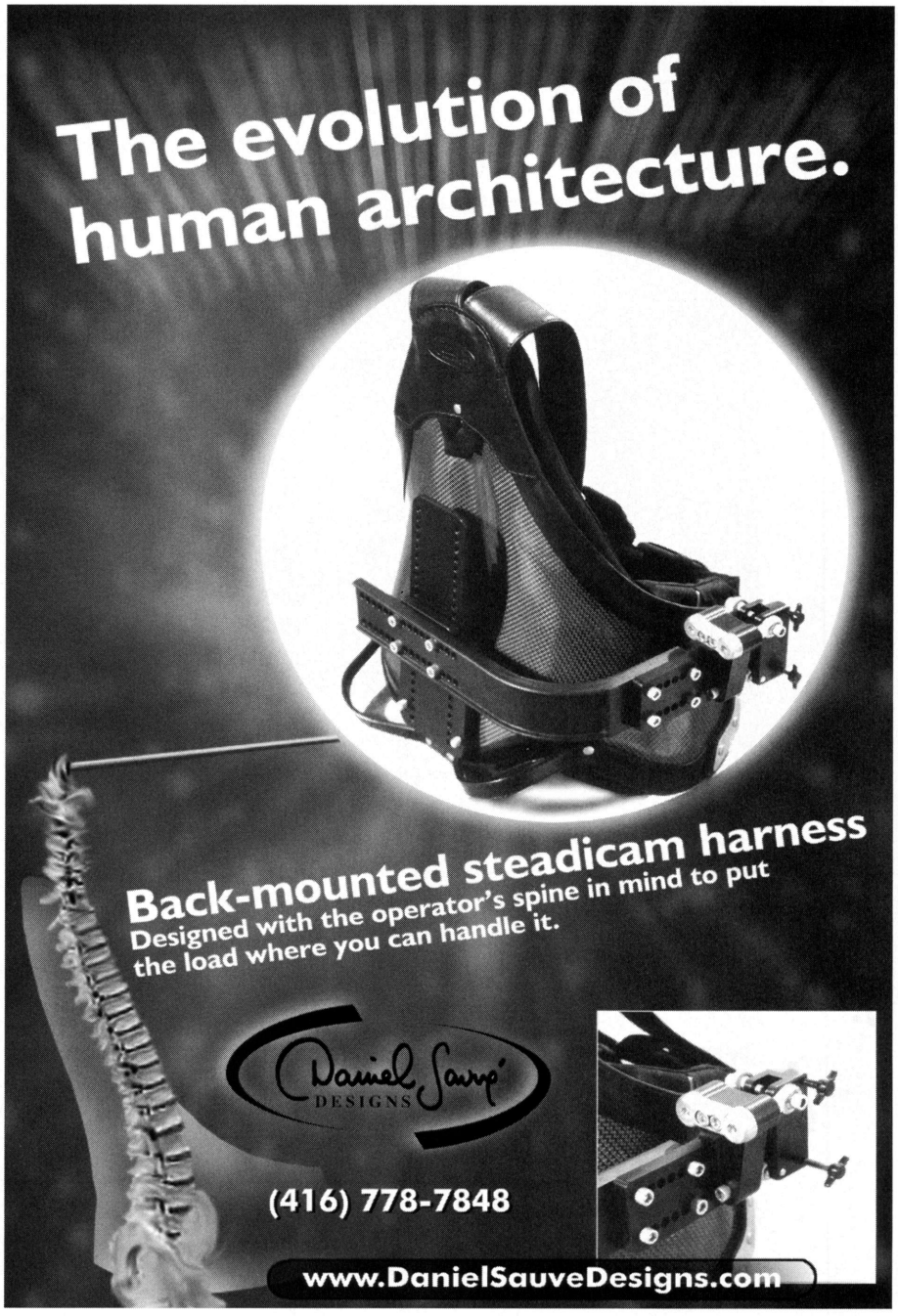
"We tested a number of different Kodak and Fuji stocks," he continues. "Our lab was Deluxe, so we tested their various silver-retention processes, like CCE and ACE. We also sent a roll to Technicolor to test ENR. Through all of that, we found that we were able to capture an interesting look by shooting with Fuji. Janusz and I had both experimented with Fuji in the past, but neither of us had shot a studio film with Fuji stock. By using Fuji with the CCE process at Deluxe, we were able to get a very interesting, specific,

gritty and desaturated look. When we put the Fuji film through the CCE process for the first time, we definitely got a different look than we did by putting the Kodak stocks through the same process. The look of the Fuji instantly seemed to fit *Lost Souls* much better. It had to do with Fuji's interpretation of various colors. There was a little bit of shifting going on in underexposure that we found particularly interesting. When we got into the grittier, underexposed range, the film got very greenish and almost dirty-looking. Kodak stocks create a very good reproduction of reality, but on this film we didn't necessarily want to see Kodak's version of reality in front of us. We wanted a gritty, grainy look."

Based on his tests, Fiore selected Fuji's Super F 8551 250 ASA tungsten stock for daylight interiors and exteriors, using only half daylight correction on the lens in the form of 81EF filters. For darker daylight scenes and nighttime sequences, he employed Fuji's Super F 500 ASA 8571. Both stocks were pulled one stop in the processing, effectively reducing them to ASAs of 125 and 250, respectively. "CCE is a very drastic process that puts a lot of contrast into the image," Fiore notes. "It's much more intense than ENR, and it really drops off the blacks. Even though we always had a Panaflasher attached to the camera, flashing the film wasn't something that I was really interested in, but Janusz was into it. I believe in affecting the film more in the mid-range of the contrast, so we pull-processed every single roll. By pulling, you affect the mid-range of the film stock rather than the toe of the curve, which is what flashing does. We used flashing for specific scenes where we felt there was a lot of contrast — perhaps only around three percent."

Fiore and Kaminski shot *Lost Souls* in Super 35, using Panavision Platinums as their A- and B-cameras. The production also utilized a Millennium Panaflex — specially modified with a mistimed shutter — as the project's dedicated "streaker" camera. "*Lost Souls* was set to be a Super 35 film, but we still did some tests with anamorphic," says Fiore. "Ultimately, we settled on Super 35 because a lot of the film took place in small locations and cars. Tiny locations are difficult to work when you're using anamorphic equipment. It would have been tough to get the type of light level that we needed."

Kaminski submits, "I wanted to work with a wider aspect ratio because I felt the story really allowed for it. Also, I wanted to come onto the screen with a bigger picture for my directorial debut. Super 35 is a beautiful format when you have two people talking in medium shots. We didn't use long lenses very much.



The Devil Made Flesh



Fiore sets up a shot of Father Lareaux (John Hurt) as the priest recovers from a confrontation with evil. "We wanted to make the camera a part of the experience," Fiore says. "We weren't approaching the shots from a voyeuristic perspective. We tried as much as possible to involve ourselves subjectively with the camera, which often placed us closer to the actors with wide lenses."

This was very much a wider-angle film — 27mm, 21mm. I tried to stay close to the actors, but not enough to create distortion in the images."

Adds Fiore, "We chose Primo lenses because we were considering the optical step that we were eventually going to go through. Primo lenses aren't something that Janusz or I normally use. We usually use Z-series lenses because they have a slightly softer look. Additionally, most of the film was shot with a Dior stocking stretched on 4" by 5" frames in front of the lenses. We found that the nets added a bit of a painterly quality to the images. The lines aren't so sharp, and the image diffuses in a sense that the overall picture has an almost 'brushwork' feel. It makes the highlights really glow and takes the edge off the sharpness of the Primos. We also tried to stay within the T2.8 to T4.0 range for most of the film because we knew we were going to end up doing an optical [blowup to an anamorphic release print], and we didn't want anything to fall off."

The production began with several weeks of location photography in and around New York City. "I wanted the film to capture some of that specific New York style," says Kaminski. "When you look at films photographed in New York, such as *Midnight Cowboy, The Panic in Needle Park* [both shot by Adam Holender, ASC] and *The French Connection* [Owen Roizman, ASC], they feel very real, and they're very much handheld. You can't really control the environment, and things just happen that you may not like, such as people looking into the lens or a car passing in front of the camera — things that are unpredictable and add a tremendous sense of reality. I wanted to make this film feel real, so the idea of using a lot of handheld cameras seemed very appropriate and gave the film more urgency. The movie takes place in the fall and winter, and that automatically dictates a certain light quality. Everything is fairly played-down in terms of the rainy, overcast feel. It's a bit gritty without being overly stylized. I wanted the film to be very pale white and pale blue, without too much color, and I didn't want any hard light. I wanted soft light, but with some mood and contrast in the faces. There is very little direct sunlight in the movie."

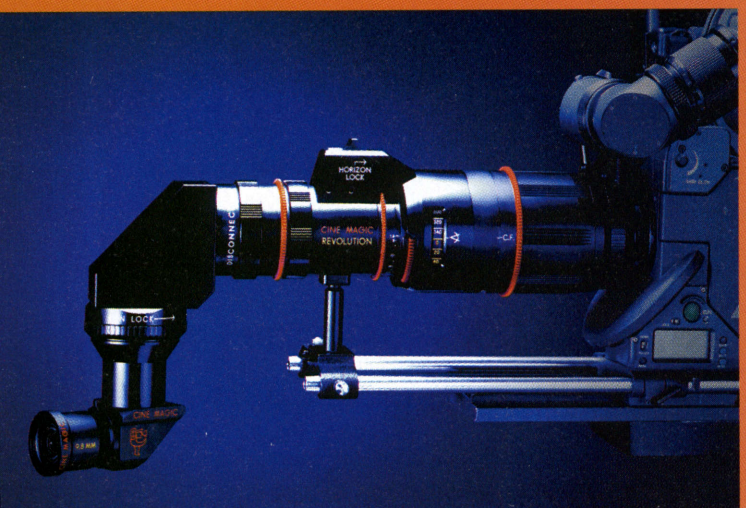
"We were resisting hard, contrasty sources," Fiore details. "Instead, we often worked with big soft sources that we underexposed, rather than putting hard light on people's faces. Also, one rule of thumb we had was to never add backlight. We felt that was too glamorous a look for this film. Instead of adding a little kicker, if there was a dark side to a character's face, we'd offset that with a bright background and play off of the chiaroscuro, rather than adding anything to the scene that would make it feel like a 'movie shot.' In the day scenes, the faces were generally a stop brighter than our shooting stop, while the fill side was two or more stops under. We wanted to feel the brightness of the daylight on the faces. On most of the day work, we used a lot of negative fill, rather than creating our own source and backlight. We simply hung huge 50' by 50' blacks from Condors."

Once the New York scenes were completed, the remainder of the shoot took place in Los Angeles, where production designer Garreth Stover (*Instinct, Phenomenon*) had constructed several key sets on stages at Sony Pictures in Culver City, California. "Most of the interiors were lit with tungsten lamps," Fiore explains. "We were mainly working with big, soft sources including several Dinos bounced off muslin to create a big wall of light. Obviously, as the source gets bigger, it gets even softer. A lot of our lighting instruments consisted of either homemade fixtures or a standard Mole-Richardson 9-light. We brought things back to more basic traditional units, and made our own softboxes. We deliberately stayed away from Xenon lights and the "shafts of light" look, which we felt had been overdone. Also, we always put practicals on the sets as much as possible and tried to include them in the frame. We worked a lot with the art department in that regard. Even on the night exteriors, we'd have them install a lamppost and other practical lights outside to create a motivation in the frame, rather than just adding light to the scene."

A key set seen at the beginning of the film is a mental ward where Father Lareaux and Larkin

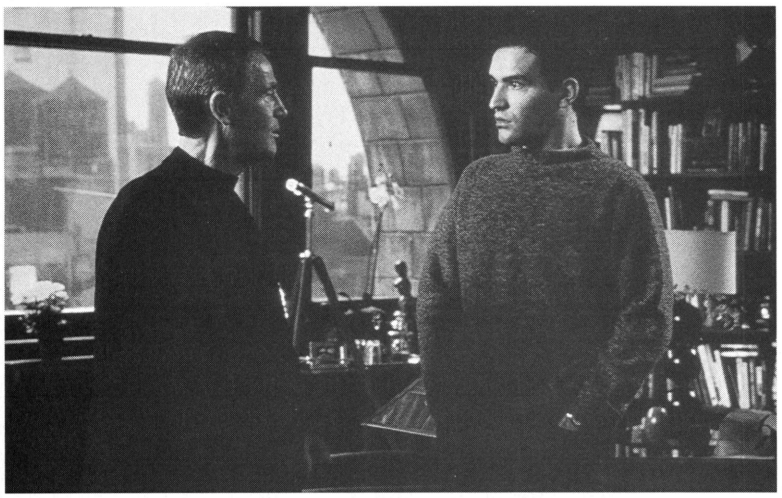
you say you want a REVOLUTION

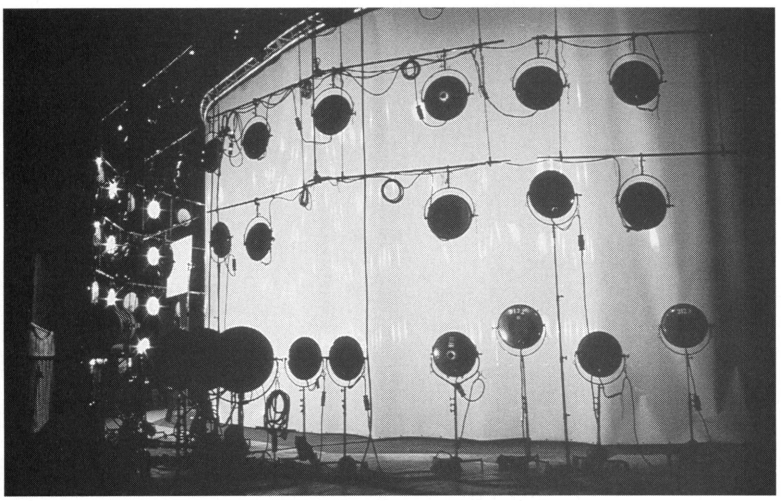
Cine Magic International's new REVOLUTION modular lens system represents an unprecedented improvement in the way you'll use snorkel-type lenses from this moment on. It is the world's first snorkel lens system that allows LIVE PANNING of the objective lens while maintaining a level horizon. The built-in IMAGE ORIENTATION optics give the user control over 360 DEGREES of IMAGE ROTATION. A DUAL-SWIVEL module gives the user the ability to photograph at an infinite number of shooting angles while maintaining the horizon during panning. And unlike most snorkel lens systems that rely on internal field lenses to transmit the image to the film, the REVOLUTION lens incorporates high quality relay lenses that transmit only aerial images. As a result, there is NO DUST PROBLEM whatsoever - so there are no worries about seeing spots on your film. The system comes with eight objective lenses, which are all capable of EXTREME CLOSE FOCUS. The INTERCHANGEABLE MOUNTS allow for mounting to most film & video cameras. To find out more about our latest product, contact us at CINE MAGIC INTERNATIONAL, (212) 268-0028.





The Devil Made Flesh





For interior scenes set within Peter's office/ apartment, production designer Garreth Stover erected a 250' TransLight that surrounded nearly 300 degrees of the set. To illuminate the TransLight, gaffer David Devlin and key grip Jim Kwaitkowski built a support rig for an array of 2K Skypans. Devlin notes, "For some of the night shots, we only had two or four Skypans lit, but on set it suddenly felt as if you were right there in New York."

encounter deranged psychopath Henry Birdson. "Birdson is actually a mathematician who's been possessed by the devil," Fiore explains. "The mental ward was another instance where we really stayed away from the typical Gothic shafts of light coming through the windows. In the halls, the crew built in some overhead practical fluorescents to give us a bit of source lighting, but we didn't really use those to key the actors. Instead, we decided to primarily use the windows to light the actors."

Gaffer David Devlin elaborates: "To create a claustrophobic feel, Mauro really wanted to feel the source coming from the outside world, while keeping the interior kind of dead. We put different lights outside the windows to achieve different things. First, we had a line of coop lights that were aimed straight down to create a skylight feel through the windows. Next, we wanted to feel the high, hot sun of New York — not necessarily beams shooting in through the windows like you find on the West Coast, but rather little pieces of light, as if the sun was just barely breaking through over a branch and was high and raking. For that effect, we used T5 beam projectors. The T5's beam is similar to that of a Xenon, but it doesn't have a cold center. The actual signature of the beam is the magnified coils of the unit's 5K bulb. If you were shooting the light into a white cyc, you could see the actual hot spot of the lamp coils. That's always interesting from a lighting perspective, because if you were to use a Leko to create a perfectly even wash of light, you'd then probably want to break that light up a bit to make it more interesting and give it dimension and texture. The T5s look great right out of the box. They're not as bright as Xenons, but they're bright enough and they're tungsten, so you don't have to fight the color temperature.

"Alongside the T5s, we had some of [best boy] Larry Richardson's 16-light Fays, which are terrific and put out a lot of light," Devlin continues. "They use smaller 1K FCX bulbs that are softer than a Par. On an FCX bulb, there is more of a dish than a Par 64 has, so it naturally has a wider spread, even though it's physically smaller. If you were to take any Par source — such as a 9-light Maxi-Brute — and a 9-light Fay and shine one medium-beam bulb from each on a wall, the Fay light would cover the whole wall, while the Maxi-Brute would create a hot spot. For a bounce or any wide ambient source, Fays are great. We put 16 of them beside the T5 beam projectors to create an ambient wash so that the light could see different angles through, the way natural light does. All of those lights were hung from chain motors so that you could see outside the windows, where we had a blue backdrop with trees in front of it."

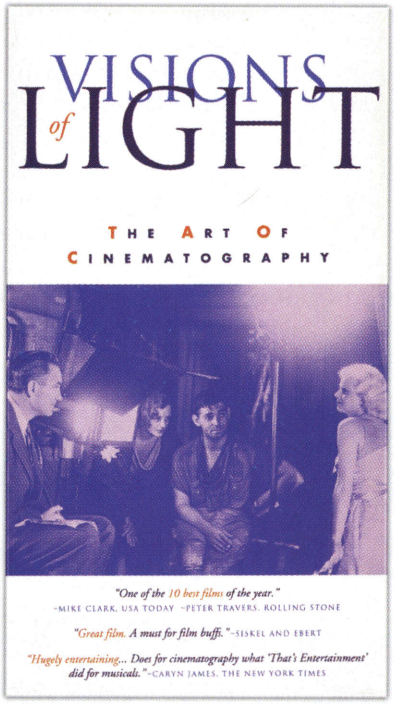
Also constructed on stage was a set depicting Peter Kelson's office. "There was a shot that we did in New York where we started with a view of Union Square and moved through a window into the office," recounts Fiore. "We then had to re-create the set onstage in Los Angeles. The production designer made a roughly 300-degree TransLight that was photographed at the location and digitally altered to make it a little more interesting. The TransLight was then stretched about 250 feet around the apartment set. The set itself was built on risers because Peter's office was supposed to be on the 10th floor of a building on Union Square. Following the same approach to the

lighting, we lit either through the windows for the daylight scene — using large sources that allowed the actors to move around the frame — or from inside the room with the practicals at night."

Devlin expands, "We lit outside the windows — between the TransLight and the window — with wide, large coops aimed through roughly 17' by 35' sections of full grid on each window. It was almost like having big pieces of beadboard above the windows to create an ambient skylight coming in. That set was a good example of a situation where Janusz really knew what he wanted and Mauro carried out that vision extremely well. The values of the scene's lighting were really successful. So often, people are inclined to overlight a TransLight. We had this big TransLight with just two or four 2K Skypans behind it, but suddenly it felt as if you were right there in New York. I've seen a lot on films where there's a sense of reality in the lighting, but the filmmakers have decided that they want to see into a corner a bit more, or manipulate things just slightly to create a more commercial look. Janusz and Mauro really pushed the balance of the lighting to make the backgrounds dark and realistic. The beautiful part of the Fuji stock is that it really breaks up quite nicely, especially if it's the least bit out of focus."

One major sequence set in an elegant ballroom was executed on location at the Biltmore Hotel in downtown Los Angeles. "Mauro and I talked about the ballroom quite a bit," recalls Devlin. "I personally wanted to give Janusz the ability to walk in and have everything lit from above, via a truss grid and lights rigged on chain motors. Janusz loved the ceiling of the ballroom, though, and he wanted to be able to shoot it, so we lit the entire room from the ground. We took one wall and had Jim extend large muslins up to the ceiling, and we would bounce Dinos

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(VHS, U.S. format)

The Devil Made Flesh

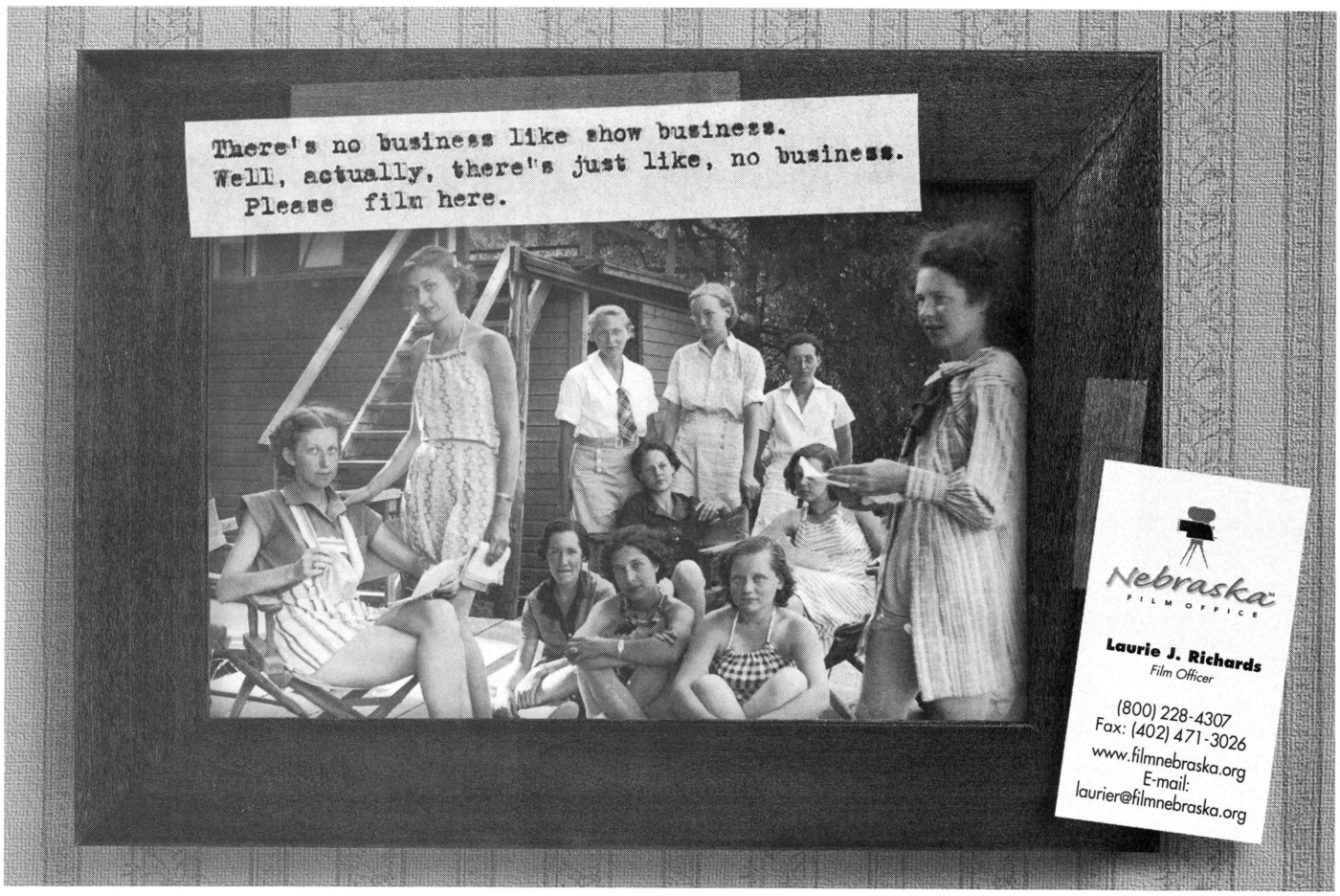
into it because we need to be able to throw light all the way up the muslins. The technique that makes all the difference is putting half Soft Frost in front of the light and a teaser on the top and sides to shape it a little bit. The half Soft Frost diffuses the light, but it doesn't bloom it because it's not white, it's clear. It therefore softens the bounce light, but doesn't become a source itself — the source is still the bounce. If you put diffusion too close to someone's face, it can look great because it blooms and you can feel the falloff of the light. However, sometimes it looks a little too lit and too slick. That sort of style feels more contrasty and is a more normal way to light."

Fiore explains, "We naturally had to constantly shift that key depending on what we saw of the room, but it turned out to be a good decision, because I felt that if we lit it from above, I would lose control of where the lights would be able to play on the people. Working the way we did also eliminated the possibility of backlighting anyone, so I was able to maintain the same specific look even within that large area. The room was filled with tables that had practical lamps on them, and we played some washes of light up the pillars around the room with a bunch of 1Ks."

Lost Souls does feature two striking exorcism scenes. The first is a flashback to Larkin's childhood exorcism, and the second is a much more graphic sequence that serves as the film's finale. "The two exorcisms are the most stylized scenes in the entire movie," Kaminski attests. "Exorcisms have been done many times in movies, so I didn't want stuff coming out of the characters' mouths, and I didn't want any spinning heads — I wanted to stay away from what the audience knows. *The Exorcist* was done brilliantly, and its imagery created a sense of fear and intensity that worked perfectly for that particular film, but we wanted to do something different.

"*Lost Souls* has three exorcism scenes. The first is a flashback that depicts Maya's exorcism 10 years earlier. It's a brief scene that helps the audience understand where the character comes from and explains her intimate knowledge of the devil's existence. Photographically, it is a very experimental scene that employs handheld camerawork to evoke the kinetic pull of the moment. To help create a sense of voyeurism, various film formats and emulsions were used, as well as changes in camera speed.

"I wanted to deconstruct the images, particularly in the third exorcism, which we photographed with multiple non-synchronized strobe lights — the images would come and go. That was a very experimental and



risky approach, because we never knew exactly what we were getting in the camera. We shot that scene simultaneously with several cameras, because I knew I could get one take where there was nothing, and another take where everything was burnt-out if it happened that the shutter fell into the wrong window [of exposure]. We also adjusted the frame rates during the take, so we knew we'd get some kind of image. With three cameras rolling covering the same action, one of them was bound to get us something!"

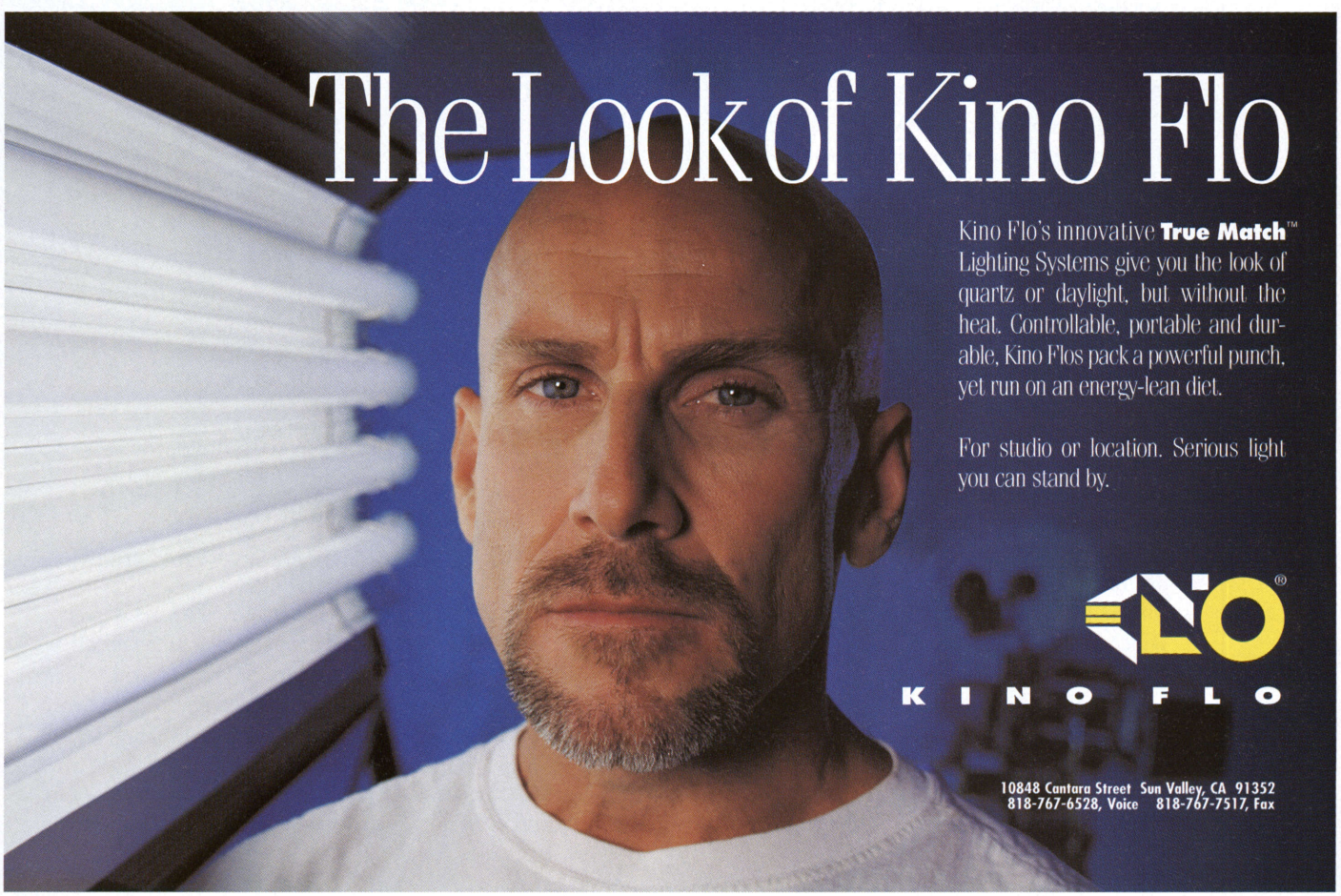
"In terms of the second exorcism, we really didn't want to take it to the extreme visually," relates Fiore. "This was the first time the audience was seeing these events in present time, so we employed setups that were a bit more classical. We didn't move the camera too much, although there was some handheld work. We dealt more with lighting things and then taking light away. In the second exorcism, we combined several different film stocks and formats. We made the images go much more astray with strobe lighting, 16mm, cross-processing and the use of a mistimed shutter on one of the cameras.

"For me, the biggest challenge on this film was working with an Academy Award-winning director of photography," Fiore admits. "I needed to find my niche and determine what I'd bring to the project stylistically. Additionally, there was the consideration of how the film would be perceived from the standpoint of my career. Is it going to be conceived as a film that Janusz Kaminski directed, and therefore shot as well? Based on my experience with Janusz in the past, I knew that he has a great way of balancing people's talents and offering the freedom that you need. As long as you accept the responsibility of that freedom, he'll give you as much of it as you want."



In one of the film's more stylized scenes, Maya Larkin (Winona Ryder) and Father Lareaux survive a bout with a possible incarnation of the devil himself.

Noting that Fiore is currently shooting the Sylvester Stallone picture *Get Carter*, Kaminski concludes, "Mauro's work in *Lost Souls* is provocative and very artistic. He has visually created the bleak but beautiful world that I wanted to see." ■



A Brief History of British Cinematography

A personal overview of the key figures, technical accomplishments and artistic trends that shaped a rich cinematographic legacy.

by Duncan Petrie



For British cinematography, 1947 was an auspicious year. English cameramen received the highest accolades from the Academy of Motion Picture Arts and Sciences, with BSC fellows Guy Green (*Great Expectations*) and Jack Cardiff (*Black Narcissus*) winning Oscars for Best Black-and-White and Color Cinematography, respectively. The same year saw burgeoning interest in British cinema in the pages of *American Cinematographer*, which published major articles on *Black Narcissus*, *Stairway to Heaven* (released as *A Matter of Life and Death* in Britain, and also shot in Technicolor by Cardiff) and *Odd Man Out*, a dramatic study in low-key "film noir" lighting by Robert Krasker, BSC. Former *AC* editor Herb A. Lightman was particularly appreciative of *Black Narcissus*, describing it as "the most beautiful Technicolor photography to appear on the screen," and *Odd Man Out*, which he extolled as "a *tour de force* of creative cinema."

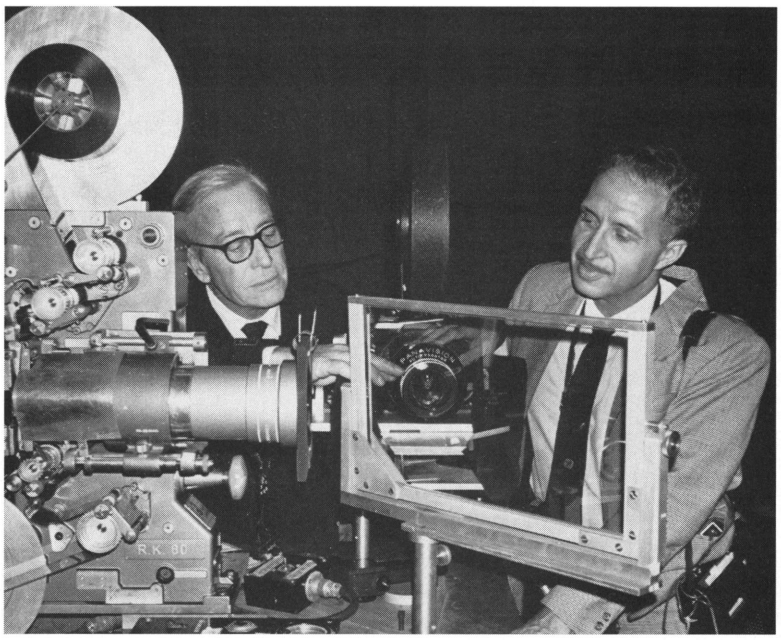
British cinematography had finally come of age, and by the early 1950s, many British technicians were in great demand with American producers, who had increased their activities in Western Europe during this period — partly as a consequence of restrictions on how much revenue Hollywood could "repatriate" from fragile European economies. Before long, BSC founders such as Cardiff, Krasker, Green, Freddie Young and Oswald Morris had achieved a level of international recognition and respect that placed them on a par with their Hollywood counterparts. Since then, successive generations of innovative cameramen have maintained the British industry's sterling reputation, picking up countless accolades along

the way, including 18 more Academy Awards for Best Cinematography between 1950 and 1990.

It took a long time for British cinematography to reach such dizzying heights, however. The art and craft of lighting was slow to develop during the formative years of the U.K. film industry. Investment in production was often woefully inadequate, and equipment remained very primitive, certainly by Hollywood standards. Until the 1920s, many of the studios were old-fashioned glass houses in which productions were lit by a combination of daylight and carbon-arc lamps used for highlighting. British cameramen also rarely experimented with camera movement, tending towards the use of the "proscenium-arch" style of frontal composition, with the insertion of occasional medium close-ups from the same position. The results were very flat and static, with little sense of the dramatic possibilities offered either by the creative use of lighting or the dissection of cinematic space.

Partly as a result of pressure exerted by the arrival of a small number of Hollywood cameramen in Britain during the early 1920s, the situation slowly began to change. Some of the studios began importing more modern lighting equipment and cameras. This in turn facilitated much greater control and flexibility, and a more expressive approach to lighting began to emerge, particularly in those studios employing technicians skilled in modern lighting techniques.

In order to improve the quality of their productions, some of the more enterprising British producers recognized the potential of importing cinematographic experts from overseas. Some were from Hollywood and others from Continental Europe, particularly Germany, which had the largest and most sophisticated production facilities outside of America. Anglo-German cooperation proved to be particularly significant in the improvement of British cinematographic technique.



Opposite: German-born director of photography Otto Heller, BSC (far left) watches actor Herbert Lom introduce his son to a three-strip Technicolor camera during the production of *The Ladykiller* (1955). Beginning in the 1930s, Heller and other émigrés added new ideas and direction to British camerawork. This page: Between takes while filming *The Battle of Britain* in 1968, esteemed cameraman Freddie Young, BSC explains the fine points of front-projection techniques to then-*AC* editor Herb Lightman. Young utilized the method for the film's many intricate aerial sequences. While the film was shot in 35mm Panavision anamorphic, the front-projection plates were shot in 65mm to reduce apparent grain.

A number of British filmmakers, including the young Alfred Hitchcock, learned a great deal while working on co-productions in Germany. When Hitchcock returned to Britain to direct his third feature, *The Lodger* (1926), he brought with him Italian cameraman Gaetano Ventigmilia, who had photographed the auteur's previous two films in Munich. Described by one reviewer as "the finest British production ever made," *The Lodger* clearly bears the influence of German expressionism in its use of dramatic shadows and camera angles, and was one of the first British films to explore the expressive possibilities of creative cinematography.

The German cinema of the 1920s had also led the way in the development of the moving camera, transforming it from a passive recorder of action to an active instrument able to convey the fluidity and dynamism of dramatic action and subjective emotion. The "unchained camera" made an impact on the British cinema via director E.A. Dupont and his productions *Moulin Rouge* and *Piccadilly*, set respectively in the shadowy and morally ambiguous worlds of the cabaret and the nightclub. Photographed by Werner Brandes, these films are distinguished by their rich visual textures and uninhibited camera mobility, which are combined in an exciting cocktail of glamour, modernity, eroticism and danger.

This type of cinematic sophistication was temporarily curtailed by the arrival of sound to the British cinema in 1929. Despite some debate, Hitchcock's thriller *Blackmail* is generally acknowledged as the first British "talkie." The project had begun as a silent production, but Hitchcock, anticipating the impending conversion to sound, shot it in a manner that would allow the insertion of dialogue scenes. A small temporary stage was built at Elstree Studios for the recording of dialogue sequences via the RCA Photophone system. The results demonstrate some of the constraints imposed by sound: the talking sequences are very static and slow compared to the movement and dynamism of the silent sequences, such as the exciting opening depicting the arrest of a criminal by the Metropolitan police.

A Brief History of British Cinematography





The 1956 drama *Anastasia* was cameraman Jack Hildyard, BSC's first CinemaScope assignment. To prepare for this task, he spent time observing ASC fellows Leon Shamroy and Milton Krasner at work, gleaning information on how to light for the then-novel format and compose for its widescreen frame. Portions of *Anastasia* were shot on locations in Copenhagen and Paris. Stage work was completed at MGM's Borehamwood Studio in London (top), where an exact replica of a Russian Orthodox church was built. Playing the title role, actress Ingrid Bergman (bottom, at left) waits patiently while a shot is lined up by the camera operator and director Anatol Litvak (at far right).

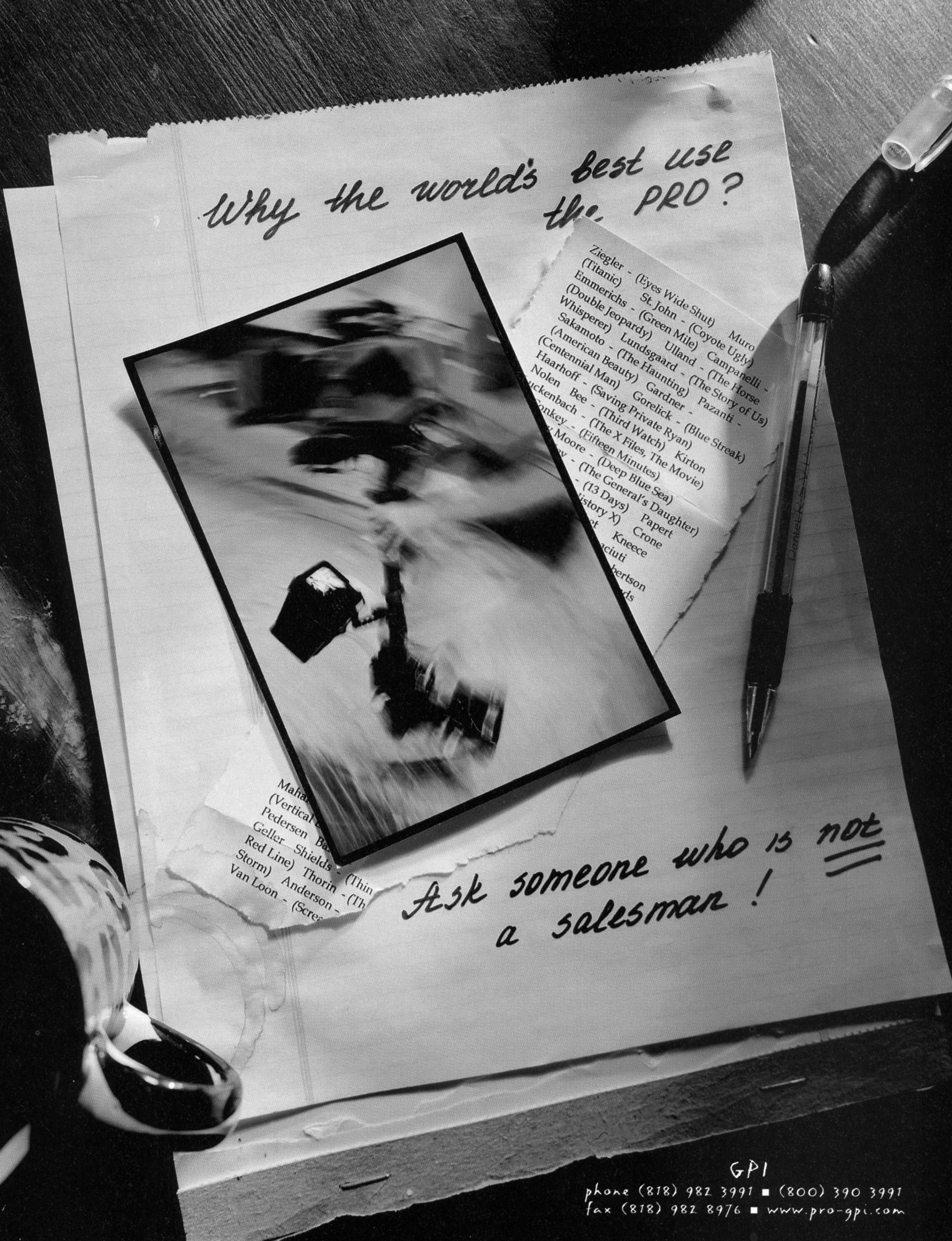
To allow sound recording, the camera was suddenly confined to a booth, restricting movement to basic panning and tilting. Alternative methods of staging and filming sequences had to be devised, including the use of multiple cameras. Lighting patterns were also less flexible, and the tendency on many productions was toward a flat, high-key style that would simultaneously suffice for long shots, medium shots and close-ups, and eliminate the possibility of the microphone boom casting an unwanted shadow.

Slowly, these problems were overcome. Booths were mounted on tracks, allowing some movement, before being replaced by the camera blimp, which facilitated the return to more flexible methods of shooting. By the early 1930s, the camera was moving relatively freely again, as evidenced by the fluid tracking shots in the opening sequence of *Rome Express*, which was praised in the March 1933 issue of *AC* as "the first British picture thus released in this country which is entirely the equal of American production in every way — photographically, technically and dramatically."

Rome Express was shot by Austrian émigré Gunther Krampf, who was part of a second wave of foreign technicians to grace the British studios. This new influx of talent resulted partly from the invitations of ambitious producers, such as Michael Balcon of Gaumont British and the Hungarian impresario Alexander Korda, and partly from the rise of Fascism. Some cameramen (such as Karl Freund, ASC and Franz Planer, ASC) passed briefly through on their way to Hollywood, while others (including Krampf, Georges Perinal, Mutz Greenbaum, Curt Courant, Otto Kanturek and Otto Heller) remained in Britain. In addition, top Hollywood technicians such as ASC fellows Charles Rosher, Harry Stradling Sr., James Wong Howe, Glen MacWilliams and Hal Rosson also lent their expertise to British filmmaking during the decade.

Unfortunately, the presence of so many foreign technicians in Britain generated a certain amount of resentment from the Association of Cinematograph Technicians (ACT), on the grounds that interlopers were denying work to British technicians. It is certainly true that very few Brits were employed at the top level during the 1930s. Notable exceptions included Jack Cox (Hitchcock's regular cameraman during his period at Elstree studios from 1927-33), Bernard Knowles, and Freddie Young.

Incidentally, Young became the first British cameraman to work in Hollywood when he joined the RKO production of *Nurse Edith Cavell* (1939). (Young documented his experience in the *AC* article "British Cinematographer Talks of Hollywood," which was reprinted in


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A Brief History of British Cinematography



Seeking a classic visual style for *Raiders of the Lost Ark*, director Steven Spielberg (at camera in white shorts, opposite producer George Lucas) selected veteran cameraman Douglas Slocombe, BSC (next to Spielberg) to shoot the rousing 1981 adventure yarn. Here, the group prepares a scene on the Hawaiian island of Kauai. Though Slocombe had some initial doubts about doing an action film, the film's clever script and Spielberg's enthusiasm quickly won him over. The cameraman would later sign on for two sequels: *Indiana Jones and the Temple of Doom* (1984) and *Indiana Jones and the Last Crusade* (1989).

the March 1999 issue). Despite the ill feeling towards foreigners in British studios, the presence of both European and American cinematographers helped to create a fertile creative environment in which a new generation of British technicians would learn their craft.

At the outbreak of World War II, most of the Americans in Britain returned home, while many of the Continentals found their movements, and their ability to work, subjected to restrictions. This gave British technicians the chance they had been waiting for, and many seized the opportunity to blossom. Some who were inspired by working with top foreign cinematographers (e.g. Krasker, Green, Erwin Hillier, BSC and Wilkie Cooper, BSC), contributed to the development of a bold new approach to black-and-white cinematography. Their work was complemented by the creative contributions of émigré cameramen such as Perinal, Greenbaum and Heller, who continued to play important roles in British filmmaking.

The dominant aesthetic that emerged was a high-contrast, low-key style which combined the artistic subtleties of Germanic technique and the bold chiaroscuro of American "film noir." The results include some of the most visually arresting and atmospheric examples of 1940s British cinema: *Thunder Rock, A Canterbury Tale, I Know Where I'm Going, Brief Encounter, Dead of Night, Odd Man Out, They Made Me a Fugitive, Great Expectations, Oliver Twist, The Fallen Idol* and *The Third Man.* Equally fine was *Hamlet,* the first major British experiment in deep focus, shot by Desmond Dickinson, BSC.

The latter half of the 1940s also saw some major Technicolor achievements, particularly by Jack Cardiff on *Stairway to Heaven, Black Narcissus, The Red Shoes* and *The African Queen.* Cardiff was one of the first employees of Technicolor's British operation (established in 1936), and worked on *Wings of the Morning,* the first British Technicolor production. The bulk of the first batch of color productions tended to have imperial or exotic themes: *The Drum, The Four Feathers, Sixty Glorious Years, The Mikado, The Thief of Bagdad.* Alexander Korda had made a major investment in British Technicolor, and five of the first eight British Technicolor features were Korda productions.

During the war, the number of color feature productions was restricted, but some very interesting films were made during this period, including *The Life and Death of Colonel Blimp, Henry V* and *This Happy Breed.* However, the real breakthrough came during the post-war period with Cardiff's work. Refusing to be bound by convention, he pioneered the subtle use of colored lighting and low-key effects, pushing against the limits of what was deemed acceptable practice by the Technicolor company, who preferred films to be brightly and uniformly lit to allow the colors to have full impact. Cardiff's audacity allowed other experiments: BSC members Guy Green and Douglas Slocombe both produced low-key atmospheric work in color on the costume dramas *Blanche Fury* and *Saraband for Dead Lovers,* respectively.

Meanwhile, Oswald Morris infuriated Technicolor with his use of diffusion and smoke to mute the colors in *Moulin Rouge,* John Huston's biopic of Toulouse-Lautrec. Morris and Huston continued their experimentation on *Moby Dick,* using a combination of washed-out color printed with a black-and-white negative to lend the images a hard edge and strong blacks — an attempt

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Arrow 50

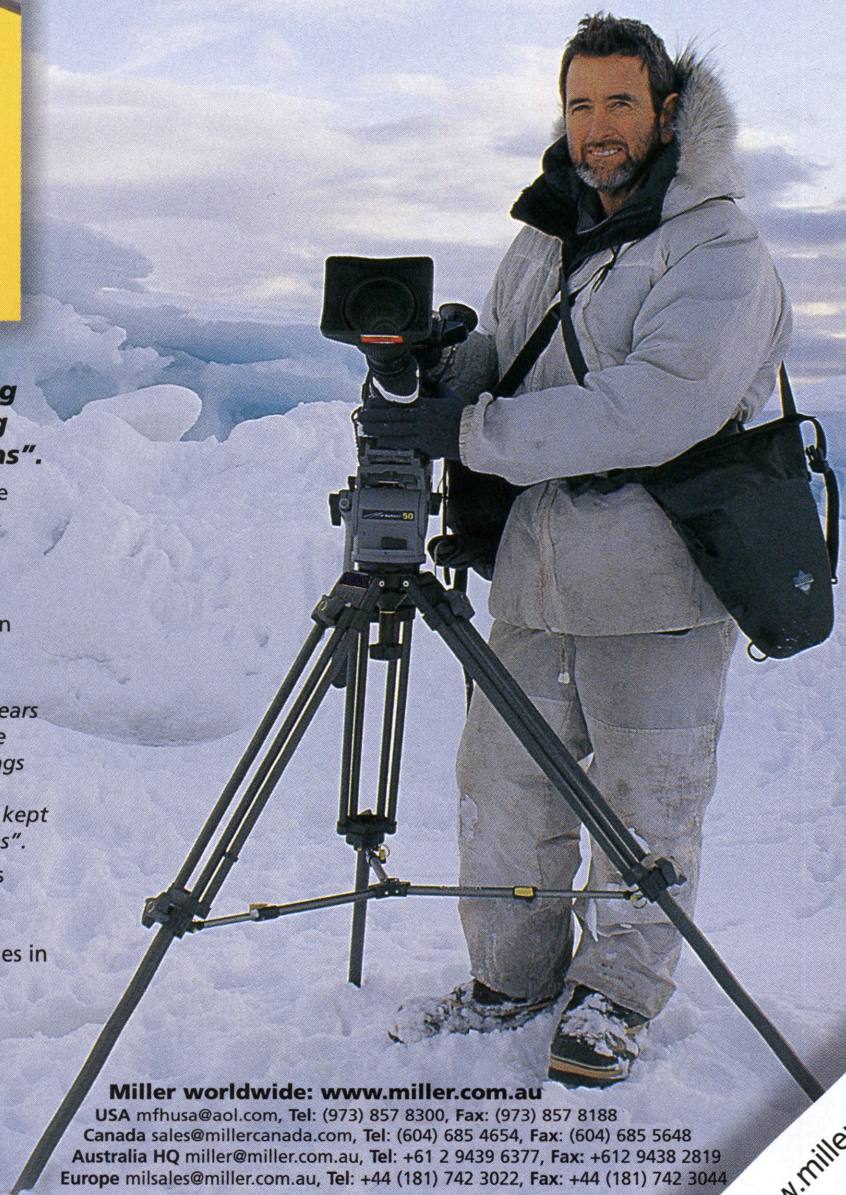


"The Arrow 50 retained the subtlety of control on the drag settings and kept functioning smoothly in the worst conditions".

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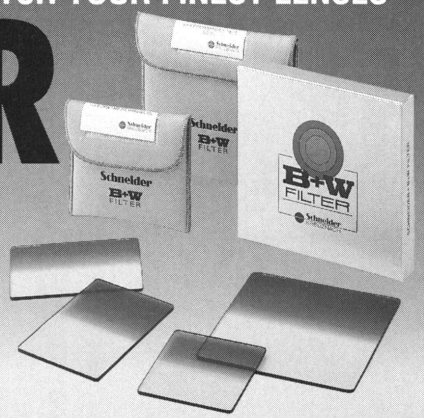
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The introduction of Eastman color finally broke the Technicolor monopoly in the early 1950s; the last British feature to use the three-strip process was shot in 1955. Although Eastman color had certain technical problems, it opened up new creative possibilities for color cinematography. In particular, the horror genre was given a new lease on life with the use of color in Hammer Films' *The Horror of Dracula, The Mummy, The Curse of Frankenstein* and other titles. The studio's senior cameraman was Jack Asher, BSC, who adopted an expressive yet economical approach to his often ghoulish subject matter.

Eastman color was also manipulated to provide a grubby seediness for contemporary films such as *Sapphire,* Basil Dearden's tale of racism in London, photographed by Harry Waxman, BSC, and *Peeping Tom,* Michael Powell's chilling study of pathological voyeurism, shot by Otto Heller.

At the other end of the scale, single-strip color negative also facilitated the development of new widescreen systems. An attempt to reinvest the cinema with a sense of spectacle (a response to declining audiences and the perceived threat posed by television), all of these systems were adopted by British production soon after they had been introduced in America. The first British film shot in CinemaScope was MGM's *Knights of the Round Table*, photographed in 1953 by Freddie Young.

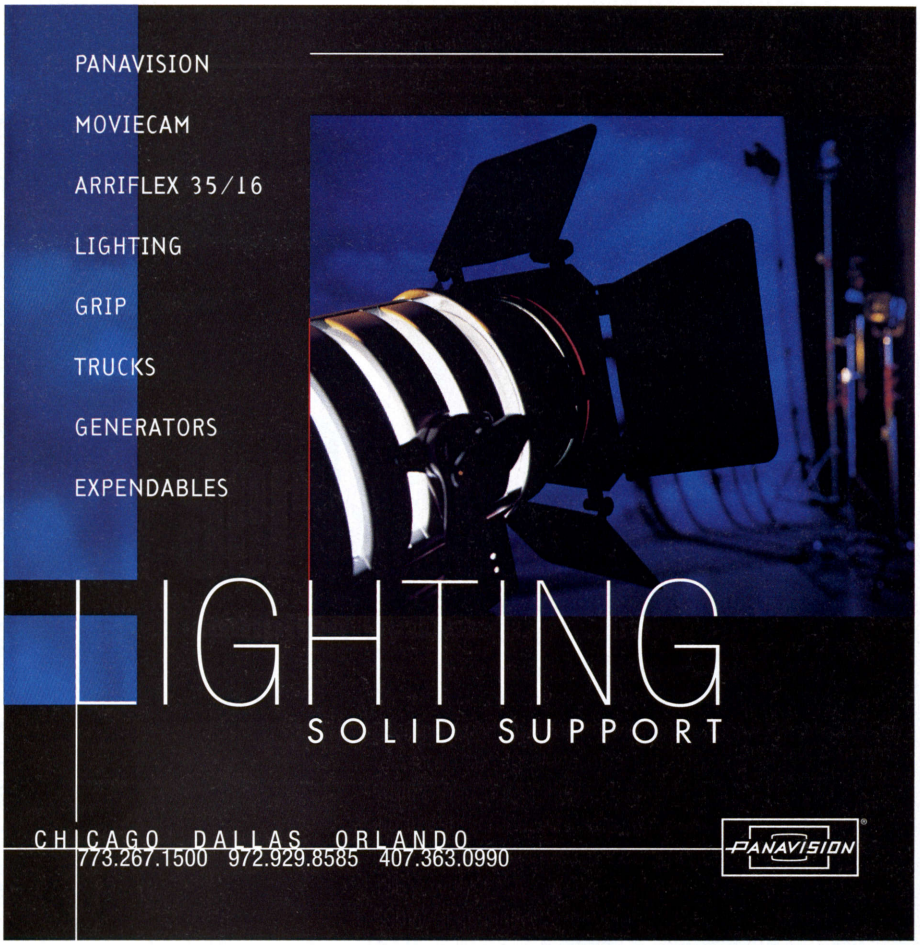
Indeed, most of the U.K.'s 'Scope productions of the 1950s were funded by Hollywood studios. Among the more interesting are the operetta *Oh Rosalinda!*, shot by Christopher Challis, BSC; the Oscar-winning films *The Bridge on the River Kwai* and *Sons and Lovers*, shot by Jack Hildyard and Freddie Francis, respectively; and the ghost story *The Turn of the Screw*, also photographed

by Francis. The latter two pictures are rendered in monochrome, and both manage to create a sense of intense claustrophobia in their interior sequences, via a combination of careful composition and depth of field control that emphasized emotional rather than physical distance.

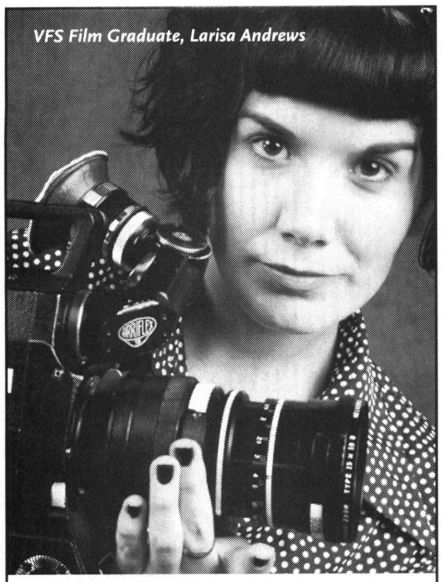
Various other widescreen systems came and went. Due to cost considerations, the major British production company, Rank, decided to adopt the short-lived VistaVision system rather than CinemaScope, but then used it to produce light comedies with little sense of visual spectacle. In the 1960s, big productions tended to use the new Panavision system, most notably for the three epics directed by David Lean and shot by Freddie Young: *Lawrence of Arabia, Dr Zhivago* and *Ryan's Daughter*. These films set new standards in cinematic spectacle by evoking the expansiveness of landscapes and epoch-shaping events (e.g., the Arabian campaign of World War I, the Russian Revolution) alongside moments of intimacy and human fragility. They also earned Young a trio of Oscars — a record for a British cameraman.

At the more economical end of the scale, many U.K. productions made use of the Techniscope system, including numerous horror films and dramas. One was *The Ipcress File*, shot by Otto Heller and featuring a rather idiosyncratic use of low-angle and tilted compositions that continually suggest a world of concealment and corruption.

The late 1950s and early '60s also witnessed the development of a more intimate and realistic cinematographic style. The influence of the documentary movement on British features had initially been noted in the early '40s, but this had more of an impact on the narrative construction and ideological aspects of particular films than on their cinematography. More significant developments began to take place in the







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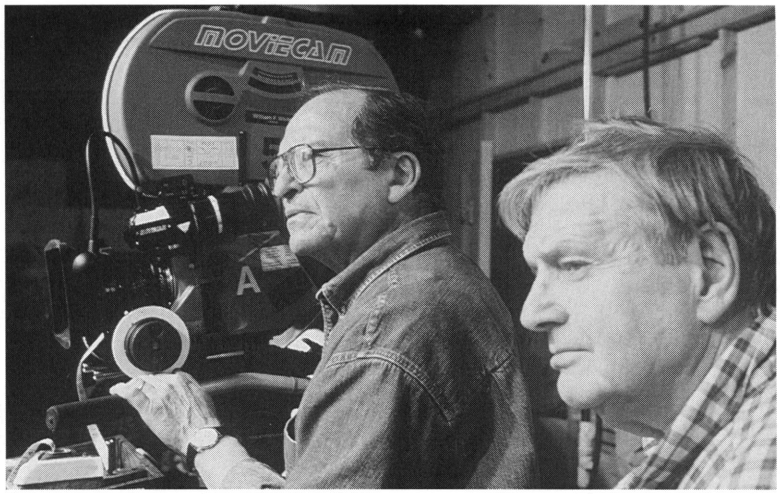
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A Brief History of British Cinematography



Cameraman David Watkin, BSC (right) came to the fore in the 1970s by using a soft, naturalistic lighting approach. He has recently collaborated on several pictures with director Sidney Lumet (left), including *Night Falls on Manhattan, Gloria* and *Critical Care*. Watkin earned Academy, BAFTA and BSC awards for *Out of Africa*, as well as BAFTA nominations for *Chariots of Fire, The Three Muskateers, Catch-22* and *Help!*.

'50s, when documentary-trained cameramen were afforded their first opportunity to shoot the occasional feature. In 1951, Wolfgang Suschitzky, BSC photographed *No Resting Place* entirely on location in Ireland, in a style reminiscent of the Italian neo-realists. Three years later, Oswald Morris photographed *Knave of Hearts* for French director Rene Clement. This production included sequences shot on the busy streets of London with a handheld Arriflex camera. The immediacy of this technique allowed the physical environment to function as a player in the drama rather than a flat backdrop. Gilbert Taylor, BSC had also developed a more naturalistic approach to lighting on a range of low-key contemporary dramas directed by J. Lee Thompson, eschewing the dramatic and glossy high-contrast look of the 1940s in favor of a flatter, more diffused style of lighting.

The real breakthrough came in the early 1960s, with Walter Lassally, BSC's cinematography on films such as *A Taste of Honey* and *The Loneliness of the Long Distance Runner*. Director Tony Richardson, who had worked with Lassally on documentaries, had wanted him to shoot his first two feature films, *Look Back in Anger* and *The Entertainer*, but had been blocked by his financiers. The success of these pictures (and of *Saturday Night and Sunday Morning*, which Richardson produced), gave him greater power.

On *A Taste of Honey*, Lassally used fast Ilford film stock and lightweight Arriflex cameras to achieve a poetic intimacy that was fresh and exhilarating. The equipment also allowed him to shoot as much as possible at real locations using available light, ensuring a sustained naturalism only briefly glimpsed in previous films. Lassally adopted a similar approach to Richardson's adaptation of Henry Fielding's 18th-century novel *Tom Jones*. Despite the period setting, the camerawork was thoroughly modern. In addition to his trademark freewheeling style, Lassally also used a diffusion filter to give the colors a vaguely pastel quality. The following year, he earned an Oscar for his work on the Michael Cacoyanis film *Zorba the Greek*, in recognition of his revolutionary approach to cinematography. In moving from documentary work to feature films, Lassally paved the way for others to follow, helping to break down the rigid demarcation that still existed until the end of the '50s.

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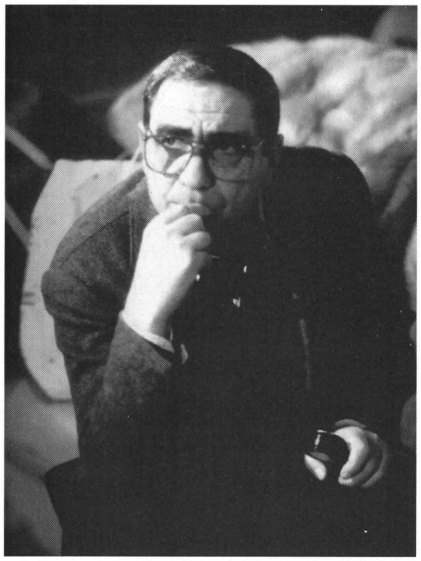
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A Brief History of British Cinematography

Among these pioneers were two cinematographers who would bring a new sensibility to the lighting of color productions in the late '60s. BSC fellows David Watkin and Billy Williams had both worked for British Transport Films before moving into features, and both were interested in achieving a naturalistic aesthetic using soft lighting and diffusion techniques. Watkin's style evolved on some very high-profile productions, including *The Charge of the Light Brigade, Catch-22* and *The Devils,* while Williams honed his skills on *Women in Love* and *Sunday Bloody Sunday.*

The '60s also saw other interesting trends and developments, and the last few years prior to the demise of black-and-white saw a dazzling array of creativity. In addition to the new realism, there were notable experiments in more expressionistic uses of black-and-white by experienced cameramen like Slocombe, Taylor, Morris and Denys Coop, BSC. The result was a dark underside to the "Swinging Sixties," epitomized by intense and claustrophobic dramas such as *This Sporting Life, The Servant, Repulsion* and *The Hill.* These pictures stood in sharp contrast to the colorful international glamour of the James Bond movies photographed by Ted Moore, BSC (who earned an Oscar in 1966 for *A Man for All Seasons*).

The late 1960s and '70s also saw an increase in big-budget international assignments for British cameramen. Stanley Kubrick's decision to work exclusively in Britain led to productive relationships with Geoffrey Unsworth, BSC on *2001: A Space Odyssey*, and John Alcott, BSC on *A Clockwork Orange* (see historical in *AC* Oct. '99, page 52), *Barry Lyndon* and *The Shining*, all of which feature innovative cinematography.

The 1970s saw a slump in U.K. film production, but British cinematographers were still in great demand on major Hollywood-financed productions in Europe and North America. Among the most distinguished contributors were Morris (*Fiddler on the Roof, The Wiz*), Unsworth (*Cabaret, Superman*), Slocombe (*Rollerball, The Great Gatsby*), Taylor (*The Omen, Star Wars*), and John Coquillon, BSC (*Pat Garrett & Billy the Kid*).

The decline of British production had a direct effect on career-development patterns. Up until the '50s, camera trainees learned their craft in the studios, working their way up from clapper/loader to focus puller to operator before making the big move to director of photography. The closure of studios necessitated alternative forms of training, such as television and documentary filmmaking. Beginning in the '60s, tech-



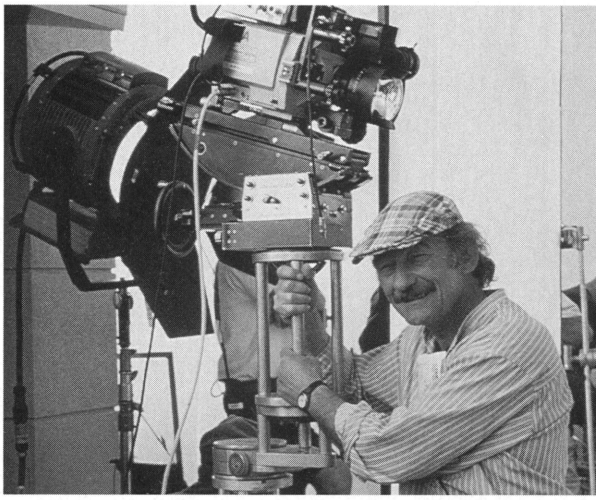
nicians from those fields, such as BSC members Ken Higgins, Toni Imi and Chris Menges, made their feature debuts.

The worlds of cinema and television have subsequently moved even closer together. Since the early 1980s, this pattern has intensified, with an array of TV cameramen (including BSC fellows Ken Macmillan, Tony Pierce-Roberts and Brian Tufano) moving into big-screen production.

Beginning in the 1970s, films schools also began to play a more significant role in the training of new talent. One of the first British cameramen to learn his craft this way was Peter Suschitzky, BSC, who attended film school in Paris in the late '50s. The two most important schools to emerge in Britain were the National Film and Television School, based at the old studios in Beaconsfield, and the London International Film School, in Covent Garden. By the early 1980s, the first film-school graduates began making their mark, led by BSC fellows Roger Deakins (also ASC), Ian Wilson, Gabriel Beristain, Roger Pratt, Oliver Stapleton and others.

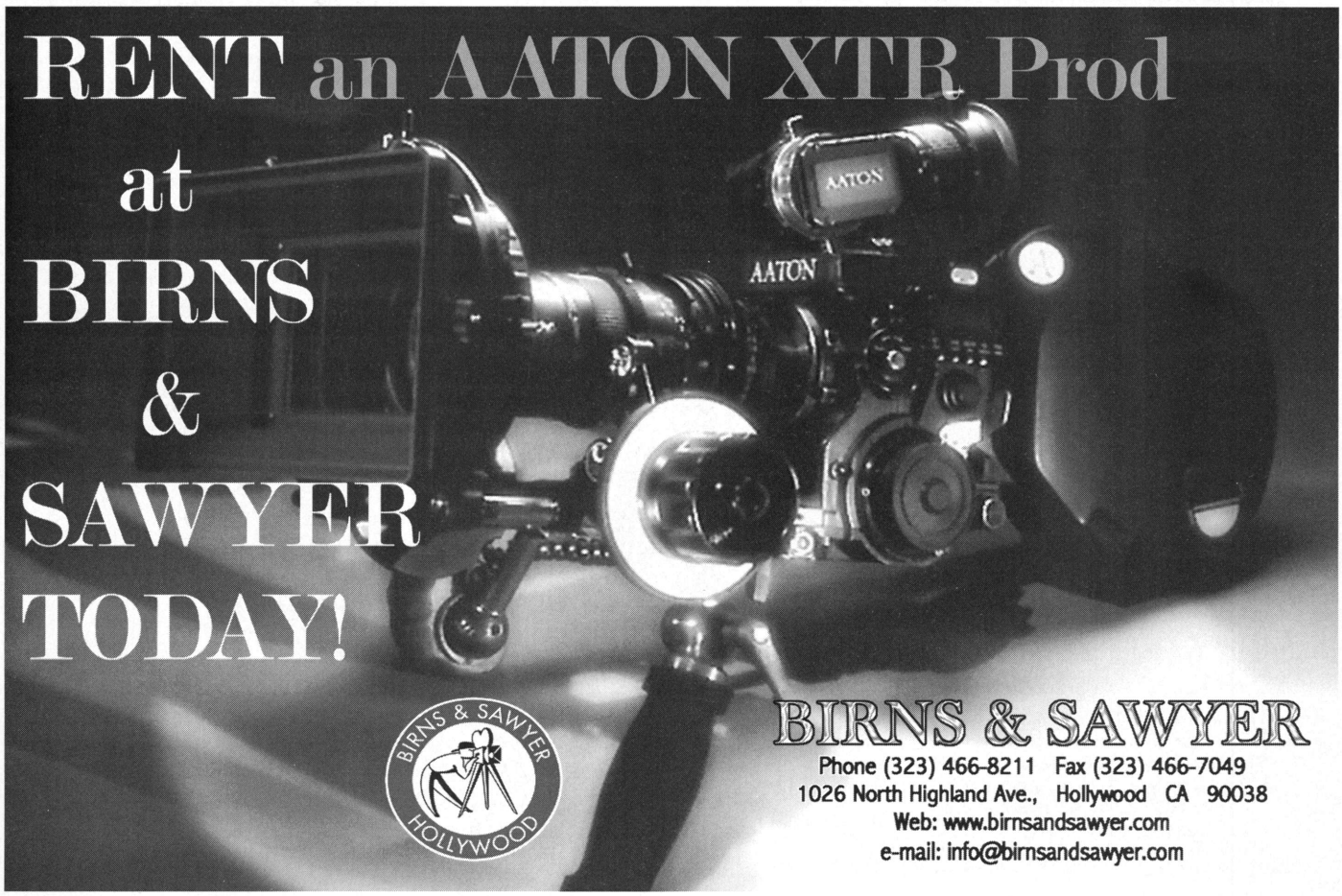
Film schools also provided women with access to a world that had previously been a largely male domain. The first female graduate of the camera department at the National Film and Television School was Sue Gibson, who made her feature debut in 1990 with *Hear My Song,* and later became the first woman invited to join the BSC.

The past two decades have continued to produce rich creative work by British cinematographers. During the 1980s alone, Academy Awards were presented to Menges (for *The Killing Fields* and *The Mission*), Watkin (*Out of Africa*), Peter Biziou, BSC (*Mississippi Burning*) and Freddie Francis (*Glory*).



Director of photography Peter Biziou, BSC earned the Academy Award for *Mississippi Burning,* directed by frequent collaborator Alan Parker.

The generation that emerged in the 1980s quickly became the new establishment, working regularly at the top level on both sides of the Atlantic. Some forged important partnerships with offbeat North American filmmakers — Deakins



with the Coen brothers, and Suschitzky with David Cronenberg, for example — while others, such as Adrian Biddle, BSC (*Thelma & Louise, The Butcher Boy*) and Phil Meheux, BSC (*GoldenEye, The Mask of Zorro*) have distinguished themselves on more mainstream fare.

By the 1990s, yet another new generation of versatile and inventive British cinematographers had emerged, many of whom forged their abilities on music videos and shorts. Led by the likes of Seamus McGarvey, BSC (*The Winter Guest, The War Zone*) and Ashley Rowe, BSC (*B. Monkey, The Woodlanders, TwentyFourSeven*), these skilled directors of photography have combined artistic sensitivity and dynamic energy, ensuring that British cinematography will continue to enjoy its hard-won reputation for excellence around the world. ■

Dr. Duncan Petrie, MA, Ph.D. is a senior lecturer at the University of Exeter in the U.K., and the director of the Bill Douglas Centre for the History of Cinema and Popular Culture. His authoritative reference book The British Cinematographer *(London: British Film Institute) was published in 1996.*

Next Month in *AC:*

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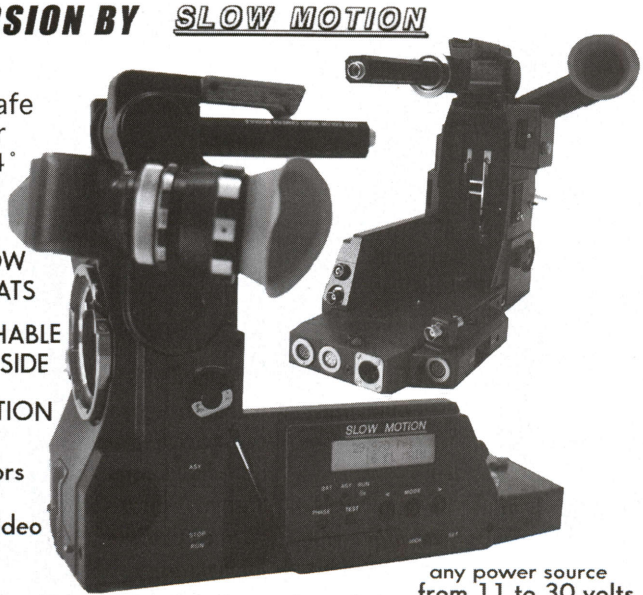
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Short Takes

Frozen Moments and Pop-Concert Pizzazz

A Virtual Time Machine
by Jay Holben

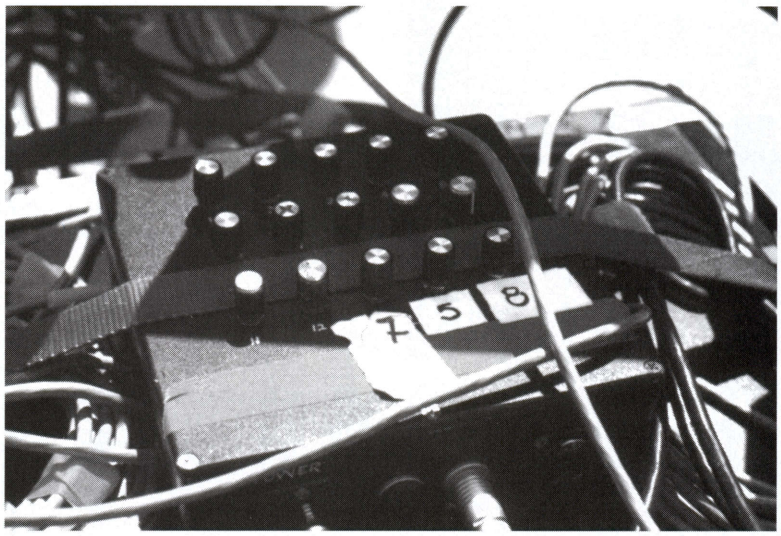
Commercials and music videos share just as much style with the fashion industry as they do with the motion-picture realm. Virtual showcases of the latest technological fads, new spots are packed by agencies and directors with whatever is current and fresh — whether that means glossy supermodels in form-fitting denim, or crushed blacks, desaturated colors and selective focus accomplished with swing-and-tilt lenses. Each time a new technique or piece of equipment is discovered, its use seems to be overexploited until it threatens to become as tired and outdated as a polyester leisure suit.

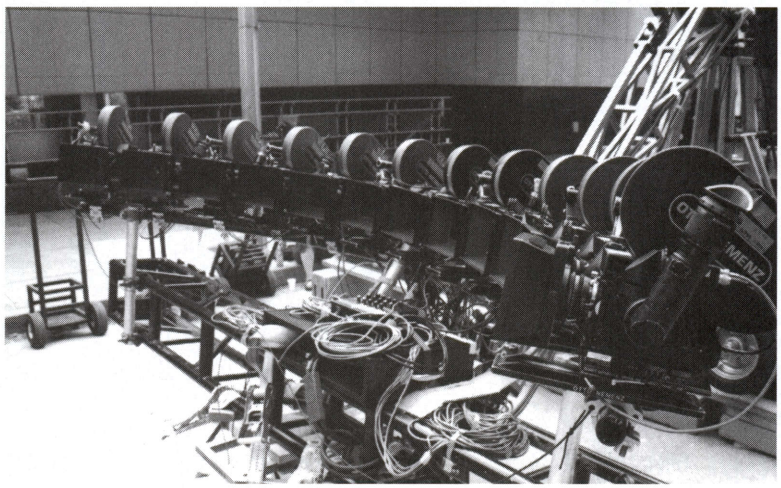
This recursive cycle has followed every technological advance from the zoom lens to the morph. However, once the initial novelty of a new technique or device wears off, its true value as a production tool can be more clearly assessed.

The latest victim of this vicious cycle has been the frozen-time "virtual camera" effect, which was extensively outlined by one of the pioneers in this field, Dayton Taylor, in *AC* Sept. '96. After popping up in dozens of commercials and music videos, the 3-D freeze gag was used to spectacular effect in the action thriller *The Matrix* (see *AC* April '99), which features characters frozen in mid-stride, mid-punch or mid-air as the rest of the world revolves around them. A play on the concept of stereophotogrammetry (see effects coverage of *Batman and Robin* in *AC* Dec. '97), the virtual-camera effect is most commonly achieved with a vast array of single lens reflex (SLR) still cameras that are synchronized to fire simultaneously. One frame from each camera then becomes 1/24 of a second in an edited sequence. Since every camera is fired simultaneously, the action captured is exactly the same for each camera. However, since each camera is placed at a different position around the subject, the perspective on that action is slightly different. When sequentially edited together, the progressive positioning of each camera allows a "virtual" camera to dolly around a subject that remains perfectly frozen in a single moment of time.

The SLR array concept was employed by Taylor, who used a series of custom-built cameras linked together and fed a single roll of 35mm film. A Mitchell magazine, cut in half, provided the feed and take-up.

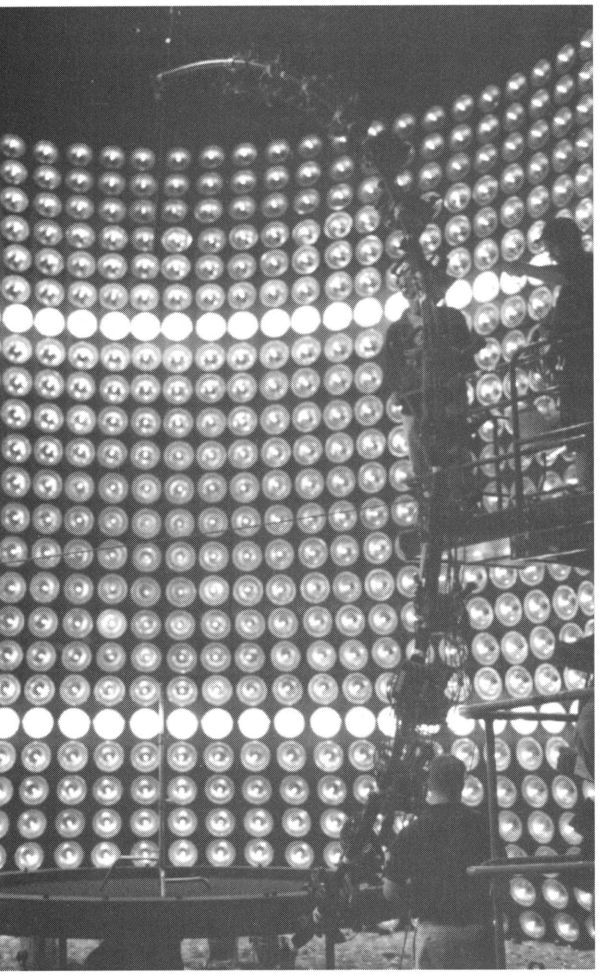
Jim Gill, vice president of the North Hollywood-based mechanical effects boutique Reel Efx Inc., pioneered several variations of this technique (a gallery of the company's work is





Top: All of the Arriflex 35-IIIs used in the MultiCinecam array are linked to a single sync signal via a sync box (pictured above) created by Otto Nemenz. Each camera's phasing can be independently controlled to align with the master sync pulse. Bottom: Mounted in an impressive array to a piece of 2" bent steel pipe at the end of a crane arm, each of the 12 cameras in this MultiCinecam rig is carefully aligned to a single focal point to create a smooth virtual dolly around the talent. Compound moves are possible by integrating dolly and jib motion, but focus pulling is not necessarily a viable option.

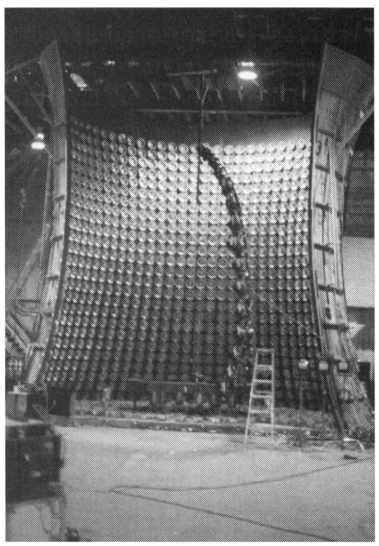
Photos courtesy of Reef Exf, Inc.



A vertical MultiCinecam array configuration was created for director Martin Weisz and rap artist Puff Daddy's "Public Enemy #1" video, which demonstrates the dynamic abilities of the system. In addition to this configuration, Weisz also created a horizontal circle of 30 cameras surrounding the cylindrical set to photograph a full 360-degree rotation. The ring of cameras were placed outside of the set with lens holes provided by removing several of the lamps that make up the inner walls of the set. The missing lamps were then replaced in the final shot with CGI fixtures.

displayed on its website at www.reelefx.com). In 1996, commercial director Tony Kaye approached Gill and his partners with a technical conundrum: to dolly with a tennis ball served from — and then returned to — court superstar Andre Agassi. Completely opposed to any compositing effects whatsoever, Kaye insisted on a method that would allow him to capture the real thing. The Reel Efx team examined the requirements first by clocking the speed of a ball from Agassi's serve. "We found that the ball initially topped off at about 100 miles per hour," Gill says. "It then dropped to about 35 miles per hour by the time it bounced at the other end court. That same cycle would be repeated as the ball was returned by the opponent's racquet. We calculated the G-forces involved in instantly accelerating a camera to 100 miles per hour, and quickly realized that no camera system could withstand that." Refusing to be bested, Gill turned to a little piece of film history for the answer.

In 1872, English still photographer Eadweard Muybridge set out to determine whether or not all four of a horse's hooves left the ground during a gallop. He placed a series of 24 still cameras alongside a racetrack, and then independently triggered the units with trip-wires as a horse ran past them. The famous series of photographs he took would provide an essential link between



still photography and the concept of motion pictures. Over a century later, Jim Gill would return to this concept to achieve Kaye's goal.

Gill recalls, "We thought that instead of trying to push a camera beyond practical speeds, we would take a series of successive pictures from where that camera would theoretically be each time the shutter opened. To do that, we lined up 100 Canon SLRs across the court — 50 to follow the ball out and 50 to track it back — and calculated how far the ball would move each fraction of a second, based on the speed of Agassi's serve. We then placed the cameras far apart at first, and progressively closer together as the ball's speed fell off." Employing a Pentium PC to individually trigger each camera in sequence, Gill and his team accomplished the impossible: a virtual dolly capable of instantly accelerating to 100 mph, decelerating to just over 30, switching directions and then accelerating back to 100 mph in a single smooth shot.

Over time, Gill and his team at Reel Efx have refined their Multicam system into a viable production tool, carefully adapting all of their 100 Canon Rebel-EOS cameras to place them almost completely under computer control. "One of the problems that we noticed early on stemmed from the camera's own reaction time," notes Gill. "Basically when you push the button in a standard SLR, the computer in the camera 'polls' that button 50 times a second to see if its been pushed. In the interim, though, the computer is asleep. When you're talking about exposures of, say, 1/250 of a second, that 1/50 of a second is a long time to wait. When we 'told' each camera to take a picture [in tests], some of them would snap the shot immediately, while others would have to wake up first. The result was that not all of the cameras shot exactly the same moment in time, which would have created a bit of jitter in the commercial's frozen action. To get around that problem, we took control of the cameras' functions ourselves."

Dylan Hixon, head of mechanical engineering for Reel Efx, explains, "We've built a custom processor that sits in the base of each camera and took complete control over the shutter, aperture, shutter speed and mirrors. When we get ready to take a shot, we arm the cameras to fire — all of the mirrors come up, the shutters are lifted into position and held by their electromagnets, and the shutter speed is already programmed in. When we're ready, all of the shutters drop instantly on our commands.

"Each camera is identified by a serial number that's burned into the chip in the bottom of the camera," Hixon

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Cinematography World News

Updated: Friday September 10, 1999 at 9:44 AM PDT

Kodak Appoints New Director

Michel Golitzinsky has been selected as the new director of the Kodak Worldwide Emerging Filmmakers Program. The program, which began in 1998, was implemented to support students and film schools, as well as filmmakers early on in their careers. The program also works in cooperation with the Public Broadcasting System and the Directors Guild of America to create funding, scholarships, product grants, seminars and equipment to its participants.

Fri Sep 10, 1999, 9:44 AM PDT

Martin Coppen Garners MTV Award

The MTV Award for Best Cinematography in a Video was awarded to Martin Coppen for his work on Marilyn Manson's "The Dope Show." Other nominees included Julian Whatley for "Freak on a Leash" by Korn, Thomas Kloss for Madonna's "Beautiful Stranger," and Daniel Pearl for Will Smith's "Miami." Coppen was also nominated for Hole's "Malibu" video.

Thu Sep 9, 1999, 6:51 PM PDT

Production News Briefs

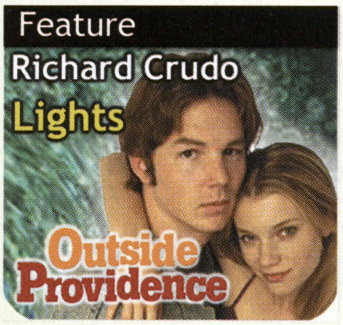
Jack Green, ASC ("Twister") is currently shooting the Clint Eastwood directed "Space Cowboys," for Warner Bros. (Shooting in Florida, Texas, New Mexico and California)...

Don Peterman, ASC ("Get Shorty") is lensing "How the Grinch Stole X-Mas," for Ron Howard and Universal Pictures. (Shooting in Los Angeles)...

Tak Fujimoto, ASC ("The Sixth Sense") shoots "The Replacements," for Warner Bros. (Shooting in Baltimore)...

Don Burgess, ASC ("Forrest Gump") shoots the new Bob Zemeckis film "What Lies Beneath," for Dreamworks. (Shooting in Vermont)...

More Production News







Options Debuts Two New Products

Options International, a worldwide distributor and system integrator for telecine and film-related equipment, will debut the X-Box modular video system and DAV's HD converter for DaVinci telecines at IBC 99. The X-Box modular video system offers the ability to [illegible] between multiple HD and standard definition formats. DAV's HD converter [illegible] Standard, SD and HD machines.

Thu Sep 9, 1999, 2:52 PM PDT

Academy Scientific Engineering

Preparations are underway for the Academy of Motion Picture Arts and Sciences' [illegible] at the University of Southern California School of Cinema-Television's 70th Anniversary Celebration,

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continues. "The computer will go out and find the cameras, and then come back and say, 'Camera one is this serial number, camera two is this serial number.' Then it sends a program to each processor that basically says, 'Serial number X, you're the fourth camera in the series, so your shutter speed is going to be this, your f-stop is going to be this. Look for the fourth pulse, that's when you're going to fire.' We can then send out a single pulse command to fire all of the cameras simultaneously or a pulse stream to fire them sequentially. When the pulse stream comes down the line, the chip in the camera counts the pulses: one... two... three... fire!"

Given this ability to fire each camera separately, the Multicam array can do much more than simply produce a virtual-camera freeze. "The effects one can achieve are pretty much unlimited," comments Gill. "Because each frame of film is a separate picture-taking entity, you can put it anywhere in space. If you place the cameras 100 feet apart, you can achieve a 3,000-feet-per-second dolly move — which translates into literally hundreds of miles an hour. If you place the cameras closer and closer, you could conceivably start from four miles away and zap right into somebody pouring beer or something. I can shoot at 24 cameras per second [for film finish] or 30 cameras per second [for video finish] and play that back.

The options for manipulating this effect are infinite: you can do a filter gradation as you go from one camera to the next down the line; you can put different lenses on the camera and go longer and longer, or shorter and shorter; you can ramp from any speed to any other speed; you can alter your depth of field by adding NDs and stopping down with each successive camera; or you can do the reverse, keeping the f-stop the same and changing the shutter speed to have a completely blurry subject become sharp in the frame. The only limitation with the Multicam array is that with 100 cameras, we're limited to a final screen time of a little over four seconds [at 24 fps]. However, within that four seconds you can do anything from a time-lapse shot that lasts for months to a 3,000 fps shot of a bullet being fired from a gun."

Taking the concept one step further, music video director Martin Weisz, with support from Otto Nemenz and Reel Efx, decided to replace the SLRs with an array of motion-picture cameras. While using 15 Arriflex 35-IIIs for rap artist Dru Hill's video "You Are Everything," Weisz found that the cameras gave him a considerable level of creative control. "With the still cameras," the director explains, "you are locked into a freeze, and the trigger has to be pulled at exactly the right time. Each camera gives you only one frame with which to work. With the Arris, though, you get several thousand frames to choose from. I can start a move at any frame I want, and then have the choice to freeze the action or just do a really fast dolly. Also, in post, it's much easier to deal with motion-picture rolls individual frames — developing, telecine and editing are much more difficult to accomplish when you're working with a bunch of five-foot rolls [from the SLR cameras]."

The major task on the Dru Hill video was synchronizing the shutters of the 15 Arri 35-IIIs. Each camera was individually hooked into a phasing sync box and slaved to one master camera. All of the cameras were then run simultaneously and manually synched with a timing light. The process could take anywhere from 10 to 20 minutes, and all of the cameras had to be run for the entire time. If a battery went bad and needed to be replaced, the entire process would have to be repeated.

On Weisz's next project, the Puff Daddy video "Public Enemy No. 1," he doubled the ante by using 30 Arri 35-IIIs. The Reel Efx team built a power pack that could control the cameras from a single source and maintain consistent power to each, and Otto Nemenz designed a single sync box with 30 individual controls to streamline the shutter-synching process.

In Weisz's latest opus, the video for "You Don't Know Me Like You Used To" (featuring Brandy with guests Shaunta and Da Brat), he scaled back to

just 12 Arri 35-IIIs, but once again incorporated Reel Efx's new battery supply and Otto Nemenz's sync box. "The video is a bit complex in that we're going to try to make [Brandy's] movements — her rhythm — dictate the rhythm of the world around her," explains Weisz. "Whenever she's standing still, people around her are moving, but whenever she moves, the rest of the world stops. I'm using the Arris for the dance break that serves as a the video's climax; we can have incredible movement around her and manipulate her motion however I want during the move. I can skip frames, freeze her or allow her to move naturally. Also, since I have multiple frames to choose from, I can decide where to begin the effect, stop the move at any point — say, the sixth camera — let it roll for a few moments, and then freeze her and move back to camera one — whatever effect looks best. With multiple frames [as opposed to just one with an SLR array], I can edit exactly on the beat, which is important in music videos. This method really gives me the freedom to create all kinds of different looks."

Adding Pop to Pepsi
by Stephanie Argy

On a recent Pepsi commercial featuring pop singer Ricky Martin, cinematographer Crescenzo Notarile and director Wayne Isham managed to combine the finesse and precision of a film shoot with the rock 'n' roll attitude of a music video. "That aspect of the project excited me tremendously," Notarile enthuses.

Because Martin is such an busy young entertainer these days, the project actually consisted of two back-to-back jobs — the commercial and a video for his song "Shake Your Bon Bon." Notarile had a total of one week — including prepping, scouting, lighting and shooting — to complete the two projects. "It was a tremendous amount of work in such a small amount of time," he laments.

To make the job possible, the production employed two separate crews — one for the video and one for the commercial. "The only common

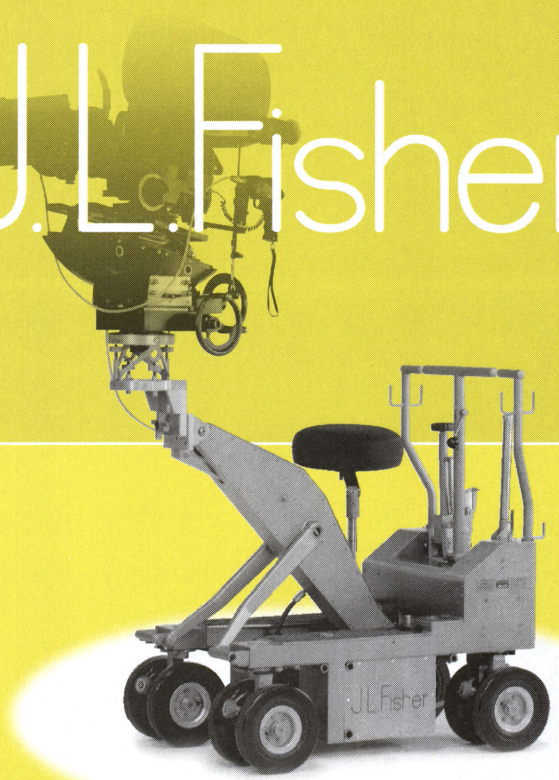
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We've Moved

people were Wayne, my crew and me," Notarile says. "We had an army of people averaging over 100 hours a week. That's a real rock 'n' roll attitude, and it's one of the reasons I like working with Wayne — he's always the last man standing."

According to Notarile, the spot was boarded out very meticulously. "That is one of the required disciplines in the advertising medium," he avows. "When you have storyboards, it's much easier to sell your ideas."

The commercial opens on an image of a Ricky Martin concert, but as the camera pulls back, the viewer sees that the concert is actually playing on a television in a New York City store window. The camera retreats even further, revealing people on the street, and then moves up into the window of a brownstone, where a family is watching Ricky Martin on their own television. The camera again pushes into the monitor, then pulls back once more to reveal a party scene in Los Angeles, with surfer-type people drinking Pepsi and enjoying a barbecue. The angle widens to reveal all of Los Angeles, then tilts down to rollerbladers racing past. Following one rollerblader, the camera is led to a nearby sidewalk cafe, where a television in the bar area is also showing the concert.

Notarile needed to film two different kinds of footage to create the spot: the city images that bracketed the spot, and the concert footage that was later integrated into it. The exterior environments that bookend the commercial contained numerous televisions screens. To allow the concert footage to be inserted later, the screens of the televisions were covered with greenscreen material during the shoot.

The entire commercial was filmed in Southern California, with Paramount Studios' backlot standing in for New York City, and a Santa Monica apartment representing the Los Angeles location. ""We designed the bookend shots to be used as one shot," Notarile details. "There was a tremendous about of critical timing involved." The shots were not only very arduous to accomplish with massive equipment (including a Technocrane mounted on a Titan crane) but also had to somehow fit within a 30-second spot. "Sometimes we would design a very elaborate move, and then have to find ways to cut away the fat and speed things up," the cinematographer explains.

Notarile also had to take a different approach to the concert lighting, since that footage would only be seen on television monitors. "I didn't get into the minutiae that much, because I knew those details would be lost," he explains. "In the world of advertising, the cuts are much quicker. The mind can only retain certain things." In this instance, he opted to light the concert with broad strokes of color.

Because both Notarile and Isham have roots in rock 'n' roll, they had to keep themselves in check during the making of the commercial, by constantly reminding each other that they would not

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be showing the entire concert. "We had to keep telling ourselves that this was a commercial — not a full-blown concert like we're used to doing, or even a music video," Notarile recalls. "We had to keep reminding ourselves what the priorities were, what the big strokes were, what the fine strokes were — while visualizing the editing."

Notarile used a Panavised Arri 435ES for its ability to speed-ramp. "We would start off in real time, at 24 fps, and I would then ramp the camera down to 6 frames for very fast motion," he says.

The cinematographer employed Panavision's Primo lenses, which he lauds for their crispness. "I always like working with a sharper image to start with, because then I have a choice of softening with filters or netting." His favorite lens is Panavision's 11:1 24-275mm T2.8 Primo zoom. "People are afraid it's going to be inferior to prime lenses," he says. "I think that's old-school thinking. The Primo zoom lenses are as sharp as the prime lenses. The main reason I like having a zoom lens on the camera is that it helps me to work more quickly. If you want to change the frame size, you can do it in a matter of seconds."

Zoom lenses also allow Notarile to be more fluid in his work, an ability that he considers to be an important part of his style. "I rely on my spontaneity," he says. "I control the zoom myself. When I started out as an assistant cameraman, I worked for Dino De Laurentiis. My background and training came from working with Italian cinematographers. They always had their left hand on the zoom barrel and their right hand on the pan handle — they were constantly caressing the framing."

Notarile grew up in Brooklyn and Long Island. His mother was a sculptor, and his father was an advertising art director who worked with Richard Avedon, among others. The family home was always filled with art and photography books, which inspired Notarile from an early age. "I knew I always wanted to have my eye behind a camera," he asserts. "The art of photography, and the idea of recording a moment, always fascinated me tremendously." In high school, he worked as a photojournalist for *Newsday* before enrolling in film school at the New York Institute of Technology.

His early training as a photojournalist taught him to look for shots constantly. "I often shoot with both eyes open," the cameraman affirms. "Even between shots, I'm looking for shots. A lot of directors and cinematographers are so precise about the storyboards — as soon as they hear the word cut, all of their senses shut down." Notarile takes pride in staying aware. He notes that many times, performers become more comfortable when they think the camera isn't running, allowing him to grab extra moments. "If I notice that something is going on, I click off some shots to give the director more options."

On the Pepsi spot, Notarile didn't use filtration to soften his images; he wanted to maintain the sharpness of the



Watts Up With SoftSun 3.3K?

What's the best new way to light interiors for the ever-popular car chase? Leave it to veteran action cinematographer David Eggby whose credits range from *Mad Max* to the forthcoming *Blue Streak*.

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Using SoftSun's dimmer panel, Eggby positioned himself in the towing vehicle and adjusted intensity as the shot progressed. "SoftSun let us reverse vehicle directions without a new setup. We drove in one direction, turned around, reprogramed the control unit to compensate for the varying sun position, then shot again with no down time."

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Pepsi cans and preserve the impact of the rock 'n' roll concert lighting, but he also wanted to give the director the opportunity to soften things up in post if necessary. "You want to provide directors with as many options as possible," he says. "I think they respect that a lot."

Having explored all of the various stocks available, Notarile finds Kodak's to be the most versatile. On this spot, he says, "I chose probably the most popular stock — Vision 500T 5279." In addition to the emulsion's tight grain structure, he likes its color saturation and wide latitude. "I've found it to be seven stops from one point to the other. You can go seven stops overexposed and still see some texture, or you can go seven stops underexposed."

Notarile began his career as a cinematographer on music videos and then moved into commercials, but he tries to work in all formats. "I feel that it's really nice, and really healthy, to participate in various types of jobs," he says, adding that he also enjoys finding ways to fuse genres. "When you aspire to do all kinds of things, it broadens your horizons, and it keeps you that much sharper. When I look through a camera, and my ear is next to that magazine, it's a very magical thing for me. What I love about this work is that you're constantly relying on your sensibilities as a human and an artist. You're constantly realizing what you've already learned and what you still have to learn." ■

Submissions for "Short Takes" may be sent on VHS tape to the attention of AC *Senior Editor David E. Williams at 1782 N. Orange Dr., Hollywood, California, 90028. Please include complete credits and contact information. Images may be sent as color slides, prints, or digital files (Mac Photoshop TIFF format, 300dpi, no smaller than 4" x 6", on Zip or Jaz drives). Information may also be e-mailed to david_williams@cinematographer.com. Materials will not be returned without a self-addressed, stamped envelope.*

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New Products & Services

compiled by Douglas Bankston

Aquatic Gear

Hydroflex has recently introduced a variety of new tools for underwater photography.

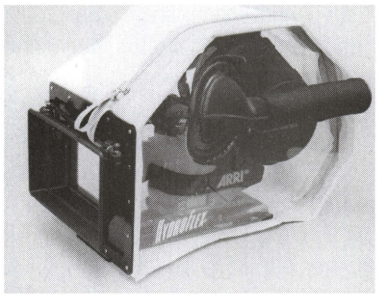
The company's splashbags, made for a variety of cameras, are completely sealed units that incorporate custom dry-suit type zippers for easy access. Designed for surface use only, the splashbags feature either the Hydroflex air-powered spray-deflector system or the spinning disc-type system built-in to prevent water drops from settling in front of the lens. An internal defogging system keeps condensation from forming.

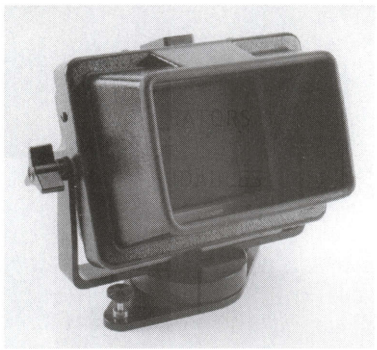
Clear side panels allow unobstructed viewing of the lens and camera settings. Lens control is achieved either remotely with the Preston system or manually with a follow-focus whip. Magazine changes and most lens changes can be made easily without removing the camera from the bag. The viewfinder retains over 90 degrees of rotational adjustment. The built-in matte box accepts accessories such as eyebrows and hard mattes.

The camera's position inside the bag is adjustable to accommodate several types of lenses. The mounting base outside the bag is also adjustable to balance the system on a head regardless of lens choice.

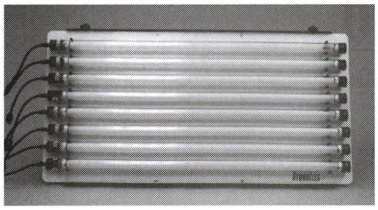
Hydroflex's underwater video monitors incorporate a flat 5.6" color screen in a 2.25" x 5.5" x 7.5" aluminum housing with a built-in hood. The monitor offers excellent off-axis viewing and may be handheld or mounted on a ball-joint arm or a swivel-type yoke.

The HydroPar 5000W SE Incandescent and HydroPar 4000W SE HMI lights, designed for underwater use only, employ interchangeable reflectors to adjust the beam pattern into spot, medium and flood configurations. Because the globe is enclosed in a tight fitting UV-coated quartz envelope, reflectors are used in place of a Par diffuser, which has its ability to spread light significantly reduced when wet.











A selection of new offerings from Hydroflex: splashbags, a waterproof monitor, an underwater Par and fluorescent fixtures.

Both lights are rated to a depth of 100', with 220V power required. The 500W SE Incandescent weighs 22 lbs. on the surface and 6 lbs. underwater. The 4000W SE HMI weighs 32 lbs. and 11 lbs., respectively.

The HydroFlo fluorescent underwater lighting system uses industry-standard Kino Flo flicker-free ballasts and comes in 6', 4', 2' lengths and in 15" and 9" MiniFlo lengths. The underwater fixtures are designed for wet or underwater applications to a depth of 100'. They may be used individually, either handheld or hard-mounted with weight cuffs, or they may be grouped in banks of four and eight on flat panels or in Hydroflex's underwater softboxes. Patterned sleeves may be fitted over the tubes for use as an on-camera practical light. Also available are custom UV transmitting tubes for underwater ultraviolet effects.

All HydroFlo fluorescent fixtures are supplied with underwater mateable connectors that allow them to be first mounted in underwater sets and then connected later. Power distribution for the four-bank softboxes has been simplified by using a single 16-conductor cable that breaks out into four 4-conductor connectors at the end, thereby eliminating the need for four separate cord extensions.

A compact, lightweight variation of the HydroFlo light box, the Mick Light, consists of two 15" Kino Flo tubes with a removable egg crate diffuser and weighs only 1.5 lbs underwater.

The SeaPar 1200W HMI lighting system has been upgraded to feature Hydroflex's custom underwater mateable connectors that incorporate an extended

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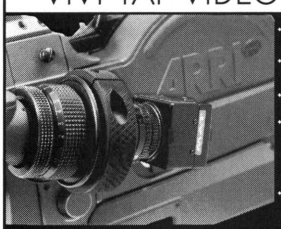
Both versions of the **UltiMate** are available with an optional modular, 1/2-inch CCD video-tap. And with its comfortable, adjustable handle, you won't want to be on the set or on location without one.

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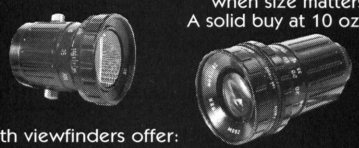


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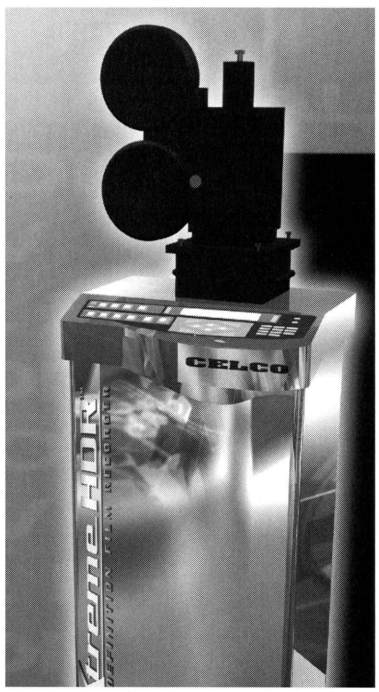
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The SeaPar underwater HMI, originally designed by Richard Mula and Pete Romano for the film *The Abyss*, received a Technical Achievement Award in 1991 from the Academy of Motion Picture Arts and Sciences for "Safety and Portability On Wet or Dry Sets." After passing NASA's Hazard Risk Assessment program, the lighting system is, to date, the only underwater lighting to be allowed in NASA's "Neutral Buoyancy Lab" in Houston, Texas for the filming of *Armageddon* in 1998. The system was used again in NASA's NBL for a National Geographic production and Clint Eastwood's upcoming feature, *Space Cowboys*.

The SeaPar 1200W HMI weighs just 4.5 lbs. underwater and is rated to a depth of 120'.

Hydroflex, (310) 310-8187, fax (310) 821-9886. website address: www.hydroflex.com.



High-Definition Recorder

CELCO has recently debuted a new eXtreme HDR High Definition Recorder. The eXtreme HDR, which records onto camera negative or intermediate film stock, is designed and optimized to shoot at 1920 x 1080 HD resolution. The recorder is capable of shooting in a range of resolutions (including NTSC, PAL and HD) and recording onto 16mm and 35mm film.

"HD video is so close to 2K resolution now that it looks good on the big screen," says CELCO marketing director John Constantine. "It's theatrical quality. The speed and price of our eXtreme HDR makes it more feasible for filmmakers to shoot HD because it brings down the cost-per-foot or cost-per-minute to record to film."

The eXtreme HDR will shoot the 1920 x 1080 HD format at a rate of five seconds per frame, comparable to a laser recorder. The software is able to sharpen images on the fly and contains interpolation tools for increasing resolution. CELCO has continued making technological advancements to its EBX Advanced CRT technology deflects an electron beam by non-mechanical means for increased reliability.

CELCO (West Coast), 909-481-4648, fax 909-481-6899, (East Coast), 201-327-1123, fax 201-327-7047, e-mail: info@celco.com, website address: www.celco.com.

Long-Life Lamps

Altman Stage Lighting Co. of Yonkers, New York, has ushered in a new line of cool output CDM-TV Fresnels that can withstand the rigors of HDTV and around-the-clock operation. The Ceramic Discharge Metal-Halide lamps are designed around the Master Color lamp technology by Philips.

The energy-efficient CDM-TV technology combines the color stability and extended life of high-pressure sodium lamps with the near white light and higher output of metal-halide lamps. The 150-watt Altman CDM-TV Fresnel, provides the output of a 1,000W studio fresnel but draws just 1.5 amps.

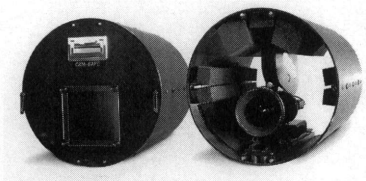
The UV-blocked CDM bulb offers a stable color temperature of 3,000°k, a CRI of 85+, a rated efficiency of up to 92 lumens per watt and an average lamp life of 10,000 hours.

The CDM-TVs are available in 150W, 75W and 35W sizes in both location and hanging versions. Design



features include an integral electronic ballast, pure aluminum reflectors, Teflon-assisted focusing and a short-throw borosilicate lens housed in a die-cast and extruded aluminum ProLine head.

Altman Stage Lighting Co. Inc., (914) 476-7989 or (212) 569-7777, fax number (914) 963-7304, e-mail address: damian@altmanltg.com, website address: www.altmanltg.com.

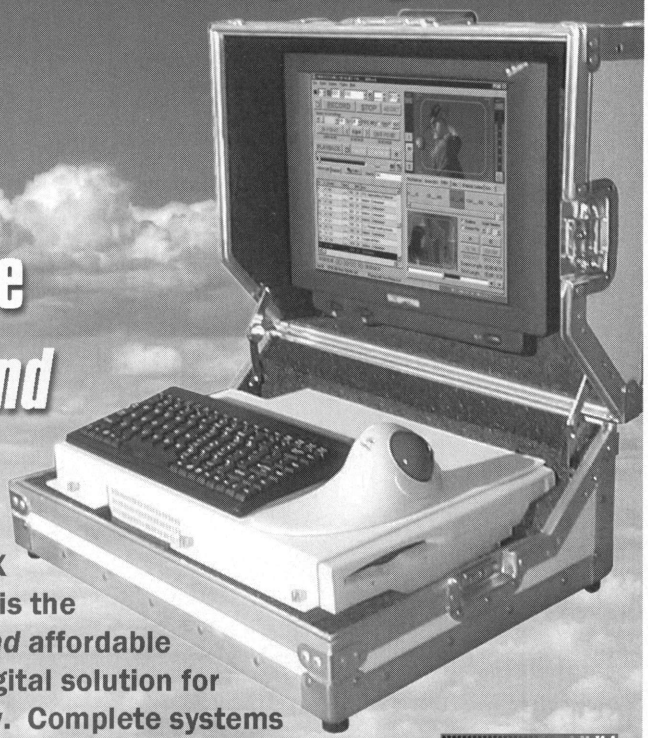


Cylindrical Crash Housing

Geo Film Group has released the Cam-Safe camera safety housing designed by Greg Schmidt. The housing is constructed from a ⅜" thick 6061-T6 aluminum plate rolled into a 20" diameter tube which is then TIG-welded into a cylinder. The ends are capped with form-fitting aluminum plates featuring removable Lexan optical flats for the front and weather-resistant cable pass-through in the back. The inside faceplates are recessed to accommodate a 6 x 6 filter.

The Cam-Safe housing is large enough to contain an Arri 2C, Arri III, Arri 435, Mitchell Fries or other cameras of similar dimensions with 400' magazines, as well as virtually any prime lens up to a Panavision E Series 180mm. The housing is also available with a dedicated Arri

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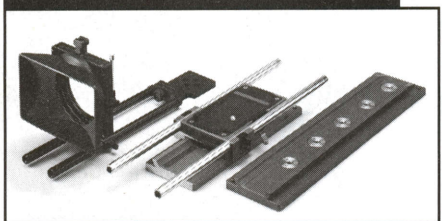
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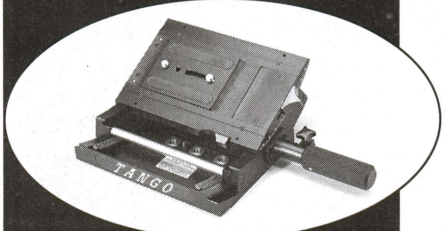
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Geo Film also has a complete line of cameras, lenses and accessories for the CAM-SAFE.

Geo Film Group, (877) 436-3456 or (818) 367-6680, website address: www.geofilm.com.

Remote Possibilities

Service Vision of Spain has introduced the flexible Scorpio Focus System, comprising a hand unit, a motor-driver

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411 Digital North America
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The Independent Video Producer, Establishing a Profitable Video Business
by Bob Jacobs
Focal Press, 224 pps., paper, ISBN 0-240-80339-6

Offers practical guidance on establishing an independent video production company and focusing on all types of productions, from small one-person operations to national corporate and television clients.

ifp/west Independent Filmmaker's Manual
by Nicole Shay LaLoggia and Eden H. Wurmfeld
Focal Press, 289 pps., paper, ISBN 0-240-80236-5

A practical step-by-step guide from IFP/West on making an independent film from the script stages all the way through post production and completion. Includes a companion CD-Rom with audio, text and video interviews, specific checklists and various forms, worksheets and reports.

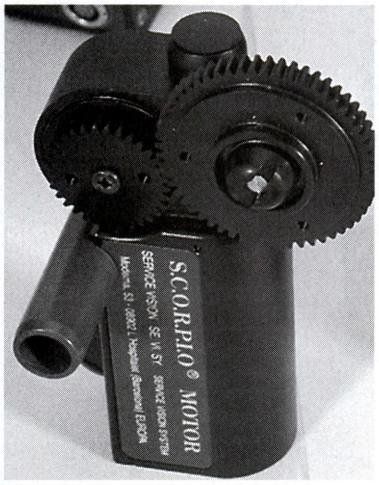
Arriflex 16SR Book, Third Edition
by Jon Fauer
Focal Press, 176 pps., paper, ISBN 0-240-80372-8

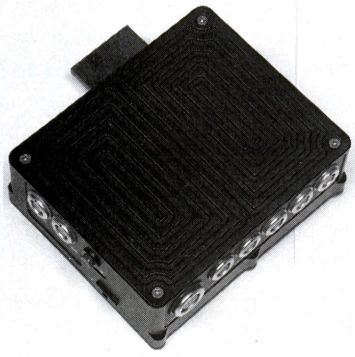
A revised guide to the Arriflex 16SR-1 and 16SR-2 camera systems updated with the latest on Super16, PL mounts, color video assist, retrofits and innovations for the camera assistant and SR owner.

Arriflex 35 Book, Third Edition
by Jon Fauer
Focal Press, 358 pps., paper, ISBN 0-240-80370-1

A modernized, revised third edition guide to the Arriflex 35BL, 35-III, 35-IIIC and the 35-IIC cameras, featuring detailed retrofits and modifications for the older cameras (including an expanded 35-IIC section). Comprehensive information is provided on accessories manufactured to complement the Arriflex 35 "open architecture" design. Future updates are posted on the Internet at www.fauer.com/books.

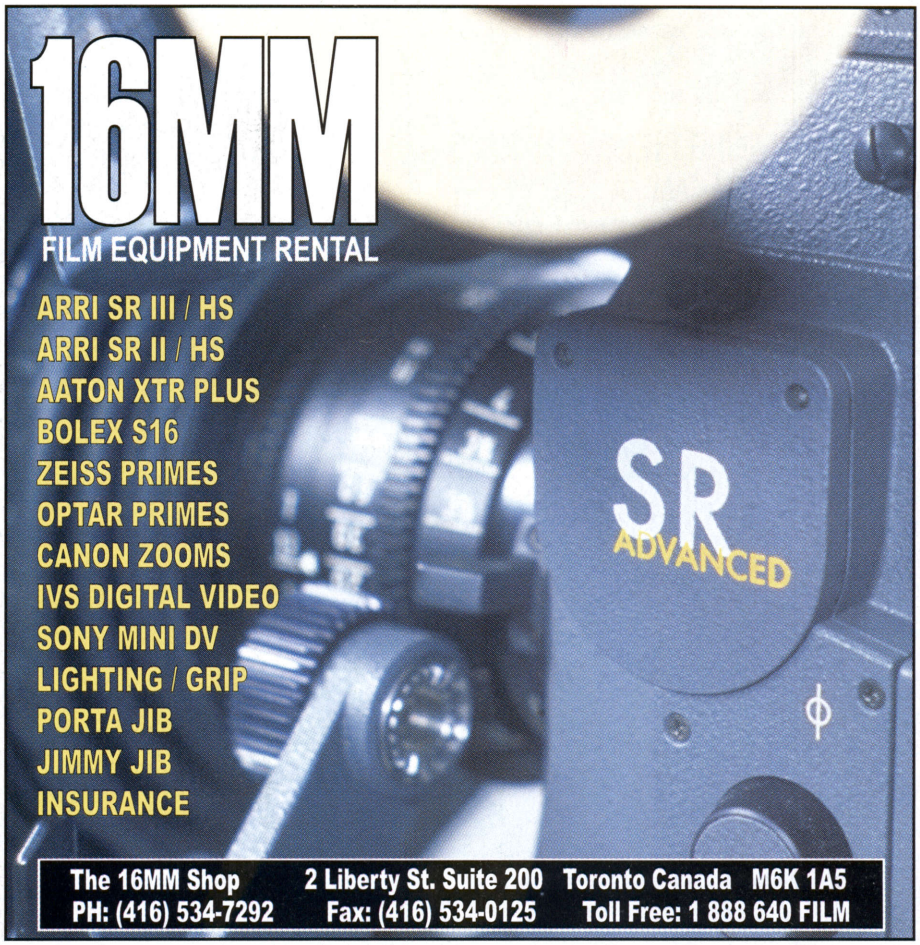




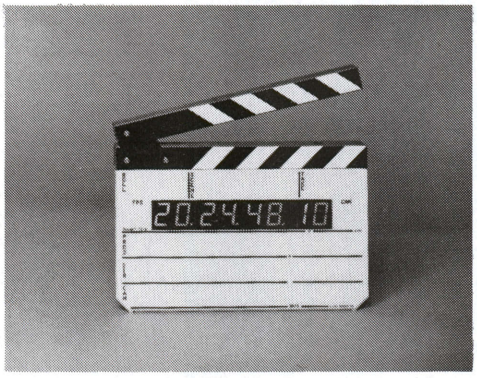


box and digital motors. Precise lens focus, iris and zoom control, a speed aperture computer and the Vertigo Tracking System are combined into one unit employing microwave technology for transmission.

The handheld Focus Controller unit serves as the programmer for focus,



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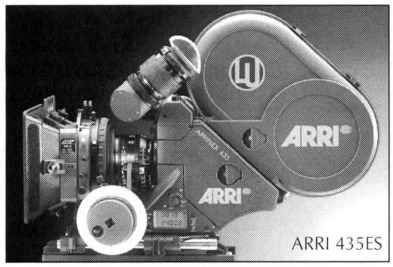


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iris and zoom control through a touchpad. Settings are stored digitally and can be easily changed. The integrated backlit LCD screen shows frame rate, total footage and last-take footage readings. The unit also has additional outputs for separate zoom and iris controls, and a power output for adding an on-board monitor. Sixteen-bit resolution allows smooth focus, iris and zoom manipulation with pinpoint accuracy.

The system also operates as a speed-aperture computer. Compatible with Arriflex and Moviecam cameras, the unit controls camera speed and the iris and shutter angle. Ramping the camera can be done manually or by programming a time duration into the unit's memory.

The Vertigo Tracking System is activated by programming a sequence of focus and zoom moves. As a dolly is advanced, the lens is automatically positioned. For this function, the Scorpio Focus System is equipped with a geared digital encoder arm that reads from a dolly track-mounted tracking belt for accurate positioning, a motor-driver interface cable, and universal mounting brackets. Up to 60 points can be programmed along the belt.

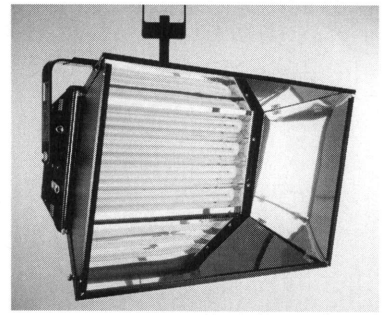
The system retains memory of all programmed motor calibrations when turned off. The transmission range is up to 1,500'. A coverage indicator on the LCD display flashes whenever the handheld Focus Controller is moved out of range. The remote unit may also be hardwired by cable.

Service Vision System, S.A., +34 93-223-86-30, fax +34 93-223-86-31, e-mail: svscomercial@tinn.net. Scorpio Products (California), (805) 520-4725, fax number (805) 520-7342, e-mail: svsscorpio@aol.com.

Video Format Options

France-based Transvideo's Format Converter can transform a regular 4:3 NTSC or PAL monitor into a 16:9 and anamorphic monitor. The converter plugs in-line before the monitor, and through digital processing, displays an unsqueezed anamorphic or 16:9 image on a 4:3 screen without cropping. Black letterboxes are automatically generated. The 10-ounce unit has a keypad to adjust the image position, and the signal output is recordable with all image manipulations through standard BNC connections.

Transvideo, +33 (0) 2-3232-2761, fax +33 (0) 2-3260-1479.



Lowel Distributes Fluorescents

Lowel-Light announced that they have become the exclusive distributor of the Fluo-Tec studio line of fluorescent fixtures for North America. All existing dealers in the USA and Canada are now able to offer Fluo-Tec studio packages that provide cool, efficient light, either tungsten- or daylight-balanced for a wide range of applications.

Lowel-Light Manufacturing, Inc., (718) 921-0600, fax (718) 921-0303, e-mail: info@lowel.com.

A Full Chalice

Hollywood-based Silicon Grail has released the first new full version of its 2-D compositing software in three years, Chalice Version 2.0. The new version, which still incorporates the Ultimatte software, is designed for easier use, better performance on a wider range of platforms and improved management of large files required by high-definition video and large-format films. A streamlined graphical user interface has been reengineered to make the command structure more intuitive, which translates into speed for experienced users and a simpler learning curve for new users.

An in-monitor slicing system has been integrated throughout Chalice Version 2.0 to greatly speed interactivity. Images are subdivided into horizontal strips for separate processing, which

significantly decreases the time required to process effects functions, even when working with 2K and 4K resolution images or on lower-end platforms. A proxy feature has been added that allows users to use temporary fill-ins for missing elements, or low-resolution substitutes for large or complex elements in speed-processing.

An example of the results that can be achieved with Chalice may be found in the Warner Bros. release *A Dog of Flanders,* about a Dutch boy who becomes a famous painter through the help and love of his canine companion. Compositor John Lafauce at Creative Visual Effects of Hollywood used the compositing software to surround the actors with an ethereal glow for a scene. Lafauce composited the actors (who had been shot against bluescreen) into a forest setting. To make the actors glow, he composited 3-D effects elements into the scene with 2-D lighting effects and color adjustments.

The new software also offers everal new effects nodes, including one for matching film grain. "In Chalice," Lafauce says, "Ultimatte functions are separated into four nodes so that you can use just the tools you need to get the job done. The grain-killer feature is especially useful for this kind of delicate work."

Silicon Grail, (323) 871-9100.

Tiffen Additions

Tiffen has introduced its new line of UltraPol filters for saturating colors and reducing glare. The Linear UltraPol and Circular UltraPol polarizers, while removing glare, ensure richer, truer colors free from glare's whitewash effects. The filters can be rotated to vary the effect. Circular UltraPol filters are suitable for virtually all situations, whereas Linear UltraPol filters excel in traditional applications. Both require 1⅔ stop exposure compensation.

Also from Tiffen are the Black Diffusion/FX and Gold Diffusion/FX filters in grades ½ to 5. The Black Diffusion/FX provides a silky-smooth look to textured surfaces, suppressing facial blemishes and wrinkles while

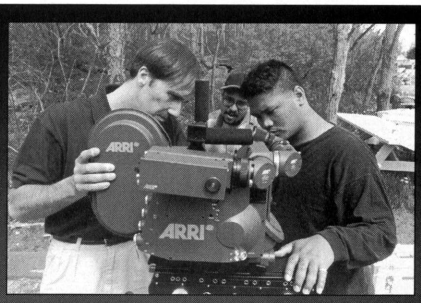
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Mag Junior shown with Top & Bottom Shelves, Adjustable Nose, 8" Wheel Conversion Kit, Hi/Lo Hat Holder, Tripod Holder and Mitchell Mount.



Mag Senior shown with Top and Bottom Shelves, HD Nose, Grip/Light Caddy, Handles, 8" Wheel Conversion Kit, Dual Axle Kit , Video Pin, Video Bracket and 9" Monitor Trays.



Mag Junior shown with Top Sound Tray, Top, Middle & Bottom Shelves, Adjustable Nose, Sliding Drawer w/ Lock, Cable Hook, Mike Boom Pole Holder and 8" Wheel Conversion Kit w/ optional Sand Dune Wheels.

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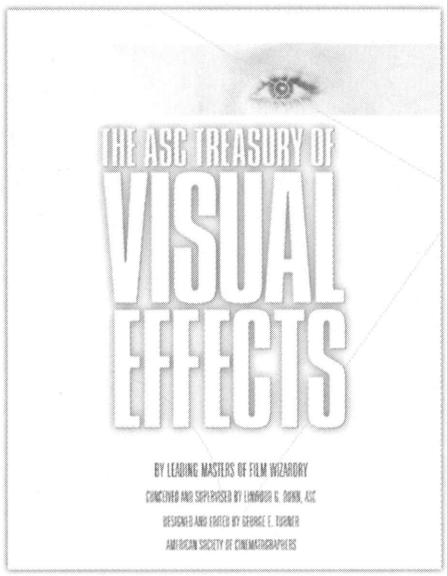
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maintaining a clear, focused image. A bare minimum of highlight flare is produced, an effect that gradually becomes more noticeable in higher grades.

The Gold Diffusion/FX filter provides the same effect as the Black Diffusion/FX while adding a soft, golden tint to shadows and balancing any mix of skintones. Cool colors and skintones are slightly warmed and softened. The diffusion increases with each step up in grade, but the warm, golden tint remains constant.

Tiffen Manufacturing Corp., (516) 273-2500 or (800) 645-2522, fax (516) 273-2557, website: www.tiffen.com.

New Kodak Telecine Option

Kodak has introduced the improved Vision Color Teleprint Film 2395 (35mm)/3395 (16mm) designed to more accurately retain the creative integrity of motion-picture images that are converted to video formats for display on television screens. The Vision Color Teleprint Film stock is a low-contrast print film optimized to take full advantage of the extended dynamic range of modern telecines, faithfully preserving subtleties in colors and contrast.

Besides a more cinematic look for television, the new teleprint film provides a high-quality alternative to video media for syndicated film program distribution overseas, where many broadcasters prefer to convert film content locally to native television formats.

The new Vision Color Teleprint Film stock uses the same standard ECP-2B chemical process as its predecessor, the 5381/7381/2381 Teleprint stock, but no pre-bath stage is required. Because the emulsion is coated on Kodak's Vision polyester base without rem-jet, the new film reduces scratches and other anomalies that show up as white dirt during telecine transfers.

Kodak Vision Color Teleprint Film 2395 is available in 2,000', 3,000', and 4,000' lengths, while 3395 comes in 2,000' and 3,000' lengths.

Contact your local Kodak representative, or visit the company's website at www.kodak.com/go/motion.

London Tripod Service

Miller Europe has opened a fluid head and tripod service facility in London to provide a local repair point for European dealers and customers. Miller Fluid Heads manufacturers a complete range of fluid heads, tripods, jib arms and accessories for ENG, EFP, film and DV camera production.

For service facility information, contact Mark Blaker or Graham Adams at +44 (0) 181 742 3022.

Lights On High

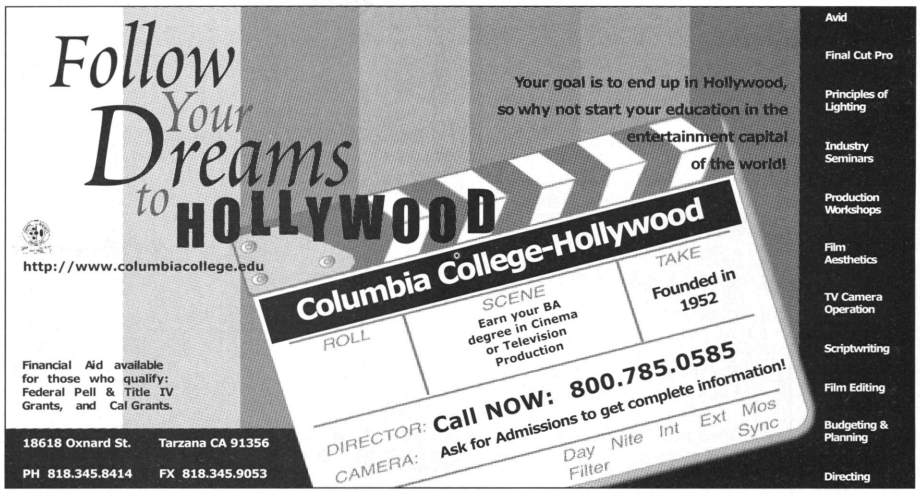
Lights Up! Industries of Los Angeles offers a wide range of lighting solutions, from 4K tungsten to 16K HMI applications, in the form of Airstar helium lighting balloons. The light source evenly illuminates an area up to 400' x 400' with 360 degrees of soft, diffused fill light that casts a virtually shadowless moonlight quality with no hot spots. All are inflated with non-flammable helium gas, and all have built-in safety features, including an automatic shut-off switch in case of a significant loss of helium.

Lights Up! Industries, (213) 741-0124 ext. 214, fax (213) 746-7215, e-mail: sales@lightsup.net, website: www.lightsup.net.

Avid For The New Apple

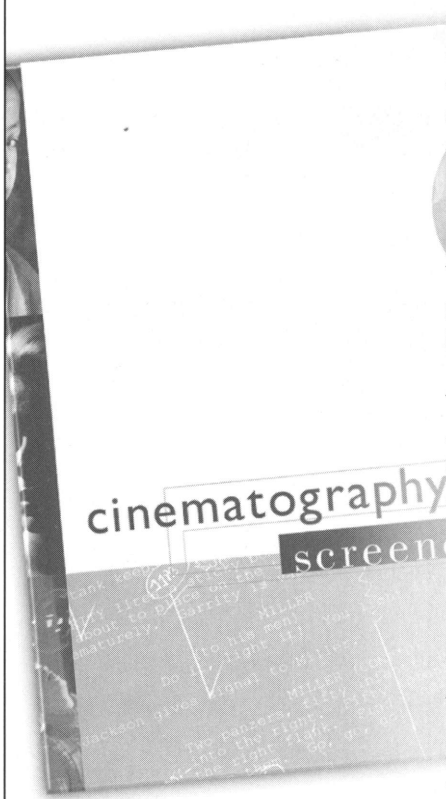
Avid Technology has announced its intention to support Apple Computer's new Power Mac G4 platform with releases of the Media Composer XL 8.1 and Xpress 3.1 professional editing systems by the end of 1999. In addition to the performance improvements of the G4, editors will have the option for the first time on a Macintosh platform of creating broadcast-quality productions with dual streams of real-time uncompressed ITU-R 601 video. The G4 will provide faster media management, transcoding and visual effects rendering.

By mid-2000, Avid also plans to add 24p Universal Offline Editing capability and 24 fps Feature Film Editing to



Cinematography Screencraft

by Peter Ettedgui



The 17 directors of photography profiled in this book encompass three generations of filmmaking, representing a wide range of visual styles — from *The African Queen* to *Delicatessen.* Lavishly illustrated with over 500 color pictures, 300 black-and-white photos, and numerous diagrams, this reference features informative accompanying text based on interviews with each cinematographer.
This is a perfect book for practicing professionals, students, and movie buffs alike.

The cinematographers featured:
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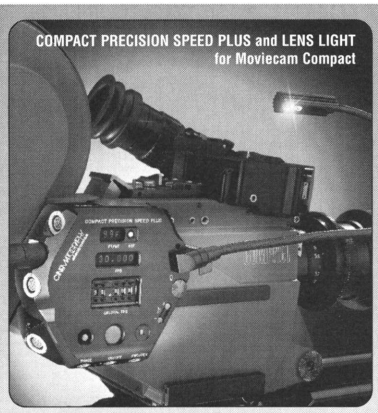
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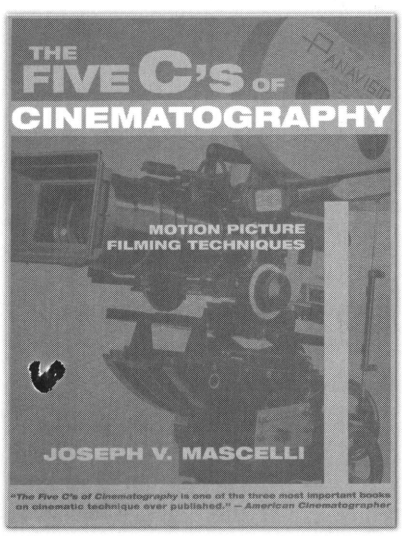
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its upcoming "Millennium Edition" release of the Media Composer system for Macintosh, targeting the G4 platforms with Meridien video subsystems. The Universal Offline Editing capability enables 24p offline editing, encompassing features such as the ability to previsualize pan-and-scan moves from 16:9 and 4:3 sources and to perfectly recreate them on the Symphony Universal system for finishing at various ouputs. Editors will be able to create frame-accurate cutlists or 24p HD EDLs to work seamlessly with the Symphony Universal Mastering system's capabilities through Total Conform.

Avid Technology, Inc., (978) 640-6789, website: www.avid.com.

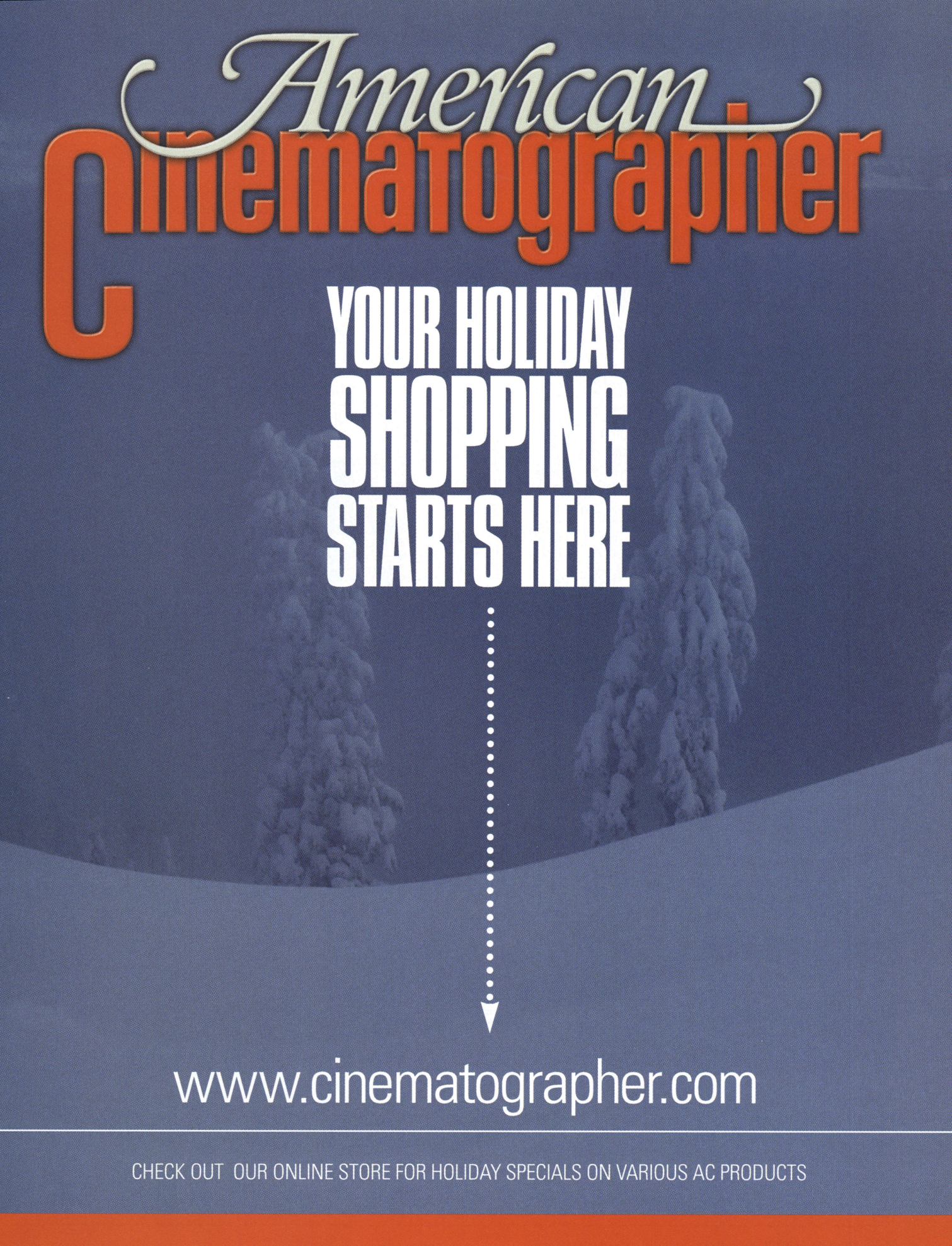


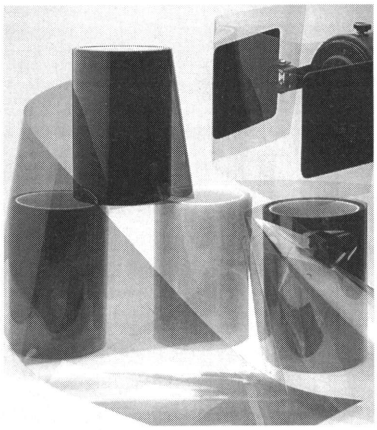
Digital Light Meter

Bogen Photo Corporation has introduced the new Mavolux 5032C Digital (4056) light meter, an extremely accurate and versatile footcandle/lux meter from Gossen.

The Mavolux 5032C is capable of measuring illumination in either footcandles or lux, but may also measure in candelas/m2 and footlamberts with the optional luminance attachment (4141). The meter is equipped with color correction so that its spectral response is matched to that of the human eye, or V(Lambda), in accordance with DIN 5032, part 7, class C. Integrated cosine correction is also included to insure that oblique incident light is also evaluated correctly.

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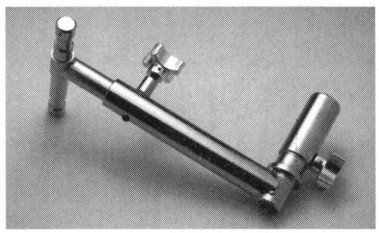


Color Correction and Offset Arm

New York-based Rocketech has announced Geltape, a complete line of adhesive-backed color correction and light diffusion filters for both fluorescent and incandescent bulbs. The gels may be wrapped around a fluorescent tube, and are heat-rated to 200° F. Geltape is also useful for gelling small windows and mirrors and existing light fixtures, creating customized dots and fingers , and repairing holes in gel and diffusion frames. Simply cut Geltape to desired length, peel off the seamed transparent backing and apply directly to any surface. They come in 5.375" x 25' rolls.

Also new from Rocketech is the Spinning Offset, a baby offset arm that incorporates a rotating feature allowing for profiled rigging of lighting units out of camera frame or in low-clearance applications. The arm also telescopes from 8" to 12". The Spinning Offset features a dual receiver post to accommodate both baby and junior pins as well as a short/long pin configuration on the rotating end.

Both Geltape and the Spinning Offset are available through Rocketech or Barbizon Lighting.



Rocketech, (800) 920-6620, e-mail: rocketech@mindspring.com. Barbizon Lighting, (212) 586-1620.

HD Dailies and Screenings

The Post Group and The Post Group Westside, based in Hollywood and Los Angeles, California respectively, is offering high-definition video dailies and screenings through the Post Group Cinema process.

Post Group Cinema begins with the delivery of film negative to The Post Group where it is transferred to high-definition videotape. Those HD video rushes are viewed on location at a 16x9 aspect ratio using an electronic digital projection system. Upon completion of the edit decision list, the project is assembled at the Post Group's HD edit bay with the end result being an HD version of a film complete with opticals, titles and effects for preview screenings.

The Post Group Cinema process

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Lighting *Dances With Wolves* With Dean Semler, ASC, ACS
Program includes Semler discussing and demonstrating:
• Widescreen composition.
• The relationship between lighting design and coverage.
• The best use of high-speed film stocks in low-light situations.
F785 29 min. Producer: AFTRS

Lighting *Dead Poets Society* With John Seale, ASC, ACS
• Seale guides the students and our camera through the lighting setups he used for scenes set in summer, winter, night and day.
• He also divulges tricks and techniques that he uses to achieve extremely difficult effects while maximizing the number of takes each day.
F786 28 min. Producer: AFTRS

Studio Lighting: A Comparative Workshop With Donald McAlpine, ASC, ACS & Denis Lenoir, AFC
Topics include:
• Studio practice
• Lighting design
• Color temperature
• Lighting metering
• Use of practical lamps
F787 59 min. Producer: AFTRS

Location Lighting With Geoff Burton
Topics include:
• Maximum use of natural lighting resources.
• Working with limited space on location.
• How fast stocks and fast work can be critical to success.
F788 29 min. Producer: AFTRS

Shooting for Realism With Allen Daviau, ASC & Sacha Vierny
Program highlights:
• Daviau and Vierny were each given the same script and set to work with, and they share their individual approaches to the problem.
• Computer graphics of the lighting setups as well, as side-by-side comparisons of the finished scenes, illustrate their approaches.
F802 55 min. Producer: AFTRS

Shooting for Drama With Robby Müller, NSC, BVK & Peter James, ASC, ACS, CSC
Program highlights:
• Each cinematographer was given the same script and set constraints. The results were beautiful images that reflect their different backgrounds and philosophies on the art and business of filmmaking.
• The video culminates with a split-screen comparison of each cinematographers finished piece.
F803 55 min. Producer: AFTRS

Shooting for Fantasy With Sacha Vierny & Denis Lenoir
Program highlights:
• Lenoir demonstrates how to use one special effect to hide another.
• Learn how to combine several effects to create magic.
F804 55 min. Producer: AFTRS

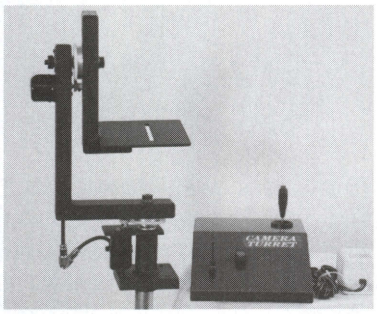
Shooting for Black-and-White With Allen Daviau & Denis Lenoir
Program highlights:
• As well as being a storehouse of practical information, this program is an ode to the haunting beauty of black-and-white cinematography and a wonderful essay on the changing art of the cinematographer from the 1920s to the present day.
F805 55 min. Producer: AFTRS

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was used to complete the assembly of *Mary Jane's Last Dance*, a Frank Mancuso, Jr. production, and is currently in use by Laszlo Kovacs, ASC on *Return to Me* for MGM/UA.

The Post Group, (323) 462-2300, fax (323) 462-0836, website: www.post-group.com. The Post Group Westside, (310) 979-4300, fax (310) 979-4320.



Pan-and-Tilt Head

The Camera Turret Company of Massachusetts is offering the low-cost CT-20 Positioning Head system for the remote positioning of both video and film cameras weighing up to 25 lbs.

The rugged, lightweight system is constructed from aircraft aluminum and features smooth pans and tilts. The head may be mounted on jibs, remote mounts and tripods. Movement is controlled through a joystick. High-torque DC gear motors allows the unit to be operated at variable speeds of up to four revolutions per minute, and can be operated using both 12v DC and 120v AC inputs.

The Camera Turret Company, (508) 822-0923, website address: http://idt.net/~camturrt.

Wall Spreader System

Andreas Meyer Company has released the Filou Wallbreaker, a flexible telescopic spanning system for situations where it is not possible to hang lights from the ceiling. The tightening element can be positioned on a wall without damaging it. Tightening the two clamping bolts causes the lightweight aluminum poles to bend upward to form an arc. Arching allows the poles to support heavy lamps, flags and umbrellas. The telescoping poles are adjustable to span a distance of over 8 meters (approximately 26') and can be mounted at any angle or configuration. The Wallbreaker is exclusively distributed by Isaia and Company of North Hollywood.

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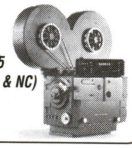
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Points East

Selling Celluloid at the IFFM

by Eric Rudolph



Director of photography Leland Crane.

Photo courtesy of El-Train Prods.

Over the years, the Independent Feature Film Market (IFFM) has helped launch some of the indie film world's most impressive careers. As a result, hundreds of hopefuls descend annually to the underground theaters of the Angelika Film Center in Manhattan's Noho, hoping their film might be the next *Stranger Than Paradise, Blood Simple, Metropolitan* or *Clerks.*

The odds of hitting such paydirt were pretty long in recent years, when it sometimes seemed as if just about any film with actors saying lines could find its way onto an IFFM screen. For the 21st annual market however, the slate of theatrical features was intentionally cut in half, to 52. The difference was immediately noticeable — the chances of enduring a sub-film school presentation seemed dramatically reduced. While there didn't appear to be any undeniable breakouts like the titles mentioned above, many impressive films were unspooled.

The gangster-themed *Under Hellgate Bridge* was probably the most talked-about theatrical feature. Proving once again that *Mean Streets* has become the definition of a cinematic genre, *Under Hellgate Bridge* mines the milieu of young urban hoodlums with very effective results. A key reason for the buzz is the film's superb photography, which was supervised by director of photography Leland Krane *(You are Here, Black Is White, Macbeth in Manhattan, Casanova Falling).*

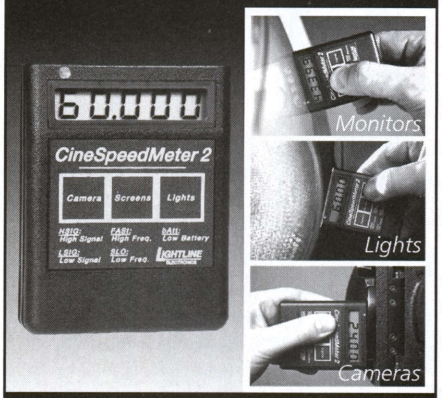
Hellgate's drama takes place in Astoria, Queens, a bustling, colorful city-within-a-city across the river from Manhattan's toney Upper East side and bordered on the west by LaGuardia Airport. The picture ignores Astoria's strong Greek identity, instead using the intensely urban area as a setting for a more traditional mob tale. The title refers to a main railroad route out of New York. The Hellgate Bridge cuts imposingly through old Astoria neighborhoods, looming ominously and quite remotely before extending over the turbulent stretch of the East River that prompted the span's unofficial nickname. According to Krane, the film is about people who are "under things like bridges, elevated subways and streetlights, and who can never get out from under."

Krane notes that he and writer/producer/director Michael Sergio decided to fashion an appropriately gritty look for *Under Hellgate Bridge* that was "ugly but not too ugly, with good light for the actors so the cast would remain appealing to the audience. We looked to Hollywood movies, where even if there is a tough, urban setting, the actors will be lit attractively."

Despite the rough settings, some of the film's most compelling moments are lovely and dramatically appropriate

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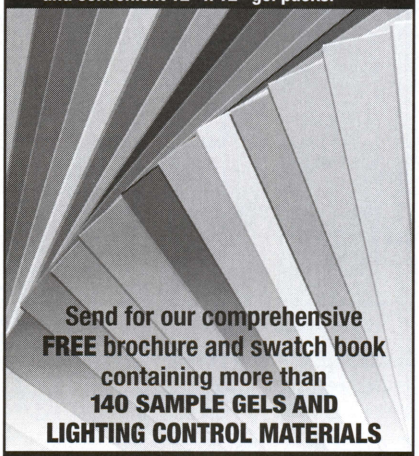
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"second-unit" shots taken by Krane, including one in which an elevated subway screeches past the protagonist's battered old wood-frame house. The setting sun hits the top part of the house with a golden-orange light before the speeding train's shadow cuts off most of this glorious, optimistic glow. "We noticed the shadow effect one day and had to go back two more times to get the shot," says Krane, who adds that "second unit can either be the same old boring shots or it can really say something."

Made for under $1 million and shot in 35mm, *Under Hellgate Bridge* caught a couple of breaks that enhanced its slick, professional look. A key location that did triple duty as a bar, restaurant and apartment was available to the filmmakers for three weeks straight. This allowed director Sergio and Krane to spend two weeks blocking out camera moves, which resulted in tremendous time savings on the set. "The precise pre-blocking saved us a half-hour to 40 minutes several times on many production days," Sergio explains.

A former actor and television producer/director, Sergio had previously established a relationship with Panavision New York, which helped the crew obtain a Golden Panaflex GII and Ultra-Speed Z-series lenses (which feature Zeiss glass and Panavision mechanics) at an affordable rate. "Panavision New York was absolutely instrumental in getting this film made," Sergio attests.

The director also credits Jim Jackson of Pittsburgh's Performance Lighting for providing an affordable truck full of lights. Kodak also helped tremendously, making 100,000 feet of "non-conforming" Vision 500T 5279 stock available to the production at an affordable price. "'Non-conforming' stock either has incorrect keycode or other flaws that don't precisely meet Kodak's specifications," Krane explains. "This batch tested at around 400 ISO, and it was a bit bluer than 79 should be. It worked well with the Ultra-Speed lenses, which are also blue-tinged; fortunately, that was a look we were after." Sergio explains that "we wanted this world to have a chilly, sort of 'outdoor' feel."

Krane distilled years of working on independent features into *Hellgate*'s lively and compelling visual scheme. He submits, "While working on various films over the years, I've seen how low-budget people can get a bounce light into a tight corner of a room without the luxury of moving a wall. I used a lot of those lessons on *Hellgate*."

Krane tends to choose soft bounced light as his key. "With direct sources, it always looks to me as if an actor is walking into a 'movie light,'" the cinematographer says. He favors bouncing small, open-faced lights, ranging from 750Ws to 2Ks, into pairs of concave show cards, an assembly often called a book light. "The light bounces in all directions, and it looks as if the actors are walking past actual lamps. They go from light to dark in a smooth transition."

Krane similarly likes to use big, bounced fill sources to add just a bit of detail to the shadows. "I'll often bounce something like a 750W into a 4' by 8', or even an 8' by 8', placed behind the camera, getting a footcandle of fill or less with a 24 footcandle key light. I like fill to be faint and spread out."

For hard edges and backlight, Krane favors small instruments such as tweenies, inkies or peppers, often with some color added to create more separation. He notes that "a hard, sharp edge light always seems to indicate to me that something bad is coming" — which is true most of the time for the characters in *Under Hellgate Bridge*.

Good things seem destined for the film itself, however. Sergio reports that the positive buzz from the IFFM led directly to three offers of domestic theatrical distribution, with more pouring in. The director expects to see *Hellgate* released in early- to mid-2000. ■

Books in Review

by Ray Zone

Forgotten Horrors: The Definitive Edition
by George E. Turner and Michael H. Price
Midnight Marquee Press, Inc.
288 pps, paperbound ($20)
ISBN 1-887664-20-3

Formerly subtitled *Early Talkie Chillers from Poverty Row*, this is the third edition of a landmark work in cinema history penned by former *AC* editor George E. Turner and Michael H. Price. This new version features an introduction by Mel Brooks, several additional film listings and a nice four-color cover with images of Bela Lugosi and Dwight Frye.

Forgotten Horrors covers an eclectic mix of films, made between 1929 and 1937, that all have an element of the weird or strange. In their preface to the original edition, the authors announced, "We call belated notice to these forgotten chillers without segregating them into such categories as Western, whodunit, spooky comedy, jungle or piracy adventure or outright horror melodrama." The criteria was that each film should convey a "strange menace" and must have been produced outside of the major studios.

Perpetually afflicted by meager budgets, "Poverty Row" producers obtained financing, rented studio space as needed, and avoided retakes and special effects. With minuscule budgets and short schedules, they often produced feature films for as little as $8,000 to $10,000 within 4 to 10 days. These penny-pinching companies included Monogram, Mascot, Majestic, Puritan, Invincible-Chesterfield, Reliable and Progressive.

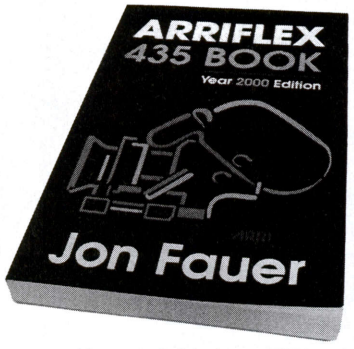
Upon their release, few of these films played on Broadway, and as a result, they were not reviewed outside of the trade press. "The few that were reviewed for the general public," the authors state, "were treated as a rule with unwarranted contempt." Despite this fact, Poverty Row produced *Mamba* (1930), an all-Technicolor (two-strip) sound feature; *White Zombie* (1932), a classic chiller about Haitian magic; *King of the Kongo* (1929), the first serial with sound; and other cinematic delights. These early sound films also boasted many performers who were bound for stardom, including Ginger Rogers, Walter Brennan, Boris Karloff, John Wayne and Rita Hayworth.

Turner and Price's original plan for *Forgotten Horrors* was to "reconstruct the Depression-era history of Hollywood's Poverty Row. . . and preferably its very weirdest motion pictures." The first edition appeared in 1979 in hardcover from A.S. Barnes & Co., and promptly faded into oblivion, but in 1986, Eclipse Books issued a "selectively revised" edition. In their preface to 1999 edition, the authors wrote that "an entrepreneurial video label called Sinister Cinema [has] introduced a section called 'Forgotten Horrors' within its catalogue, giving a nod toward our unwitting influence and offering a generous selection of movies from our contents list."

Some fresh finds in this new edition include the haunting voodoo romance *Chloe* (a.k.a. *Chloe, Love Is Calling You*), and two extraordinarily grim, thoroughly mature Westerns, *God's Country and the Man* and *Lightnin' Bill Carson*. Also added is *The Miracle Rider*, an epic serial starring Tom Mix.

Each entry in *Forgotten Horrors* includes a synopsis of the film, notes providing plenty of background detail, and cast and credit lists. First editions of this tome are selling for up to $60 on the

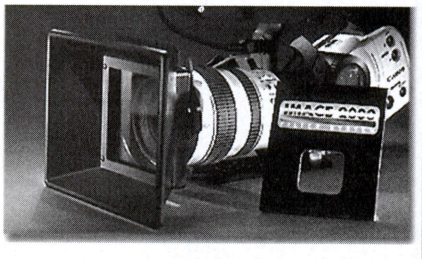
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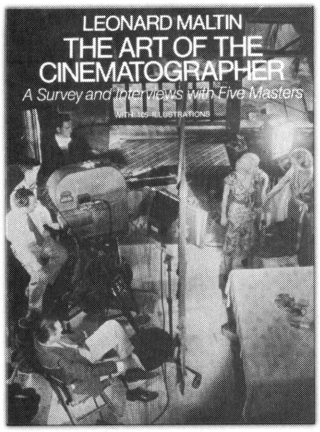
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by Thomas Doherty
Columbia University Press
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ISBN 0-231-11095-2 (paper)
ISBN 0-231-11094-4 (cloth)

Several years ago, MGM released a fully restored version of the 1934 film *Tarzan and His Mate*. The uncut print includes a surprising underwater sequence featuring the Lord of the Apes (Johnny Weissmuller) scantily clad in a loincloth, frolicking with a completely nude Jane (Olympic swimmer Josephine McKim, doubling for Maureen O'Sullivan). The playful and explicit scene runs on at some length.

This motion picture, according to author Thomas Doherty, provides a "glimpse of an alternate film universe" when the Hays Production Code was in existence but not enforced. Other films from this unique period (March 31, 1930 to July of 1934) featured vice unpunished and virtue unrewarded, illicit sexual liaisons, and mockeries of marriage. It was a strange and wonderful period for Hollywood films, which served up, in the author's words, "the raw stuff of American culture, unvarnished and unveiled."

Pre-Code Hollywood covers in detail this four-year interval, which "marks a fascinating and anomalous passage" when "censorship was lax and Hollywood made the most of it." The Production Code itself was written by Father Daniel Lord, a Jesuit priest, and Martin Quigley, a prominent Roman Catholic layman and editor of the exhibitor's journal, *The Motion Picture Herald*. "Contrary to popular belief," writes Doherty, "the document was not a grunted jeremiad from bluenose fussbudgets, but a polished treatise reflecting long and deep thought." It "expressed a progressive and reformist impulse" and "evinced concern for the proper nurturing of the young and the protection of women."

Though the Motion Picture Producers and Distributors of America (MPPDA) pledged to abide by the Code, "the regulatory and oversight process was a rigged game: members of the MPPDA could appeal unfavorable decisions by Code administrators to the next level of executive authority, namely themselves." By "gentlemen's agreement, material that violated both the letter and spirit of the Code was granted a transit visa for theatrical release."

Doherty does a good job of setting the pre-Code films against their social and cultural background. He states, "The arc of pre-Code Hollywood cinema spanned a historical epoch of singular upheaval and rare misfortune." In chapters titled "Bread Lines and Box Office Lines" and "Preachment Yarns," Doherty gauges the impact of America's Great Depression on the pre-Code films. The affinity between the crime boss and capitalist executive is discussed in "Criminal Codes," a chapter on gangster films. Classic horror films such as *Frankenstein* and *Dracula* "blossomed in the early 1930s," declares Doherty, because they were "nurtured by the incipient sense of disorder and disintegration in America."

By 1934, the National Legion of Decency, the Roman Catholic Church, and the Motion Picture Research Council "embarked upon a nationwide crusade" to lead moviegoers away from the temptations of Hollywood movies. A sense of siege became evident in the motion picture industry, and "the MPPDA reorganized the enforcement mechanism of the 1930 Code to give it coercive power over member producers," marking the end of a brief but eye-catching period in Hollywood history. ■

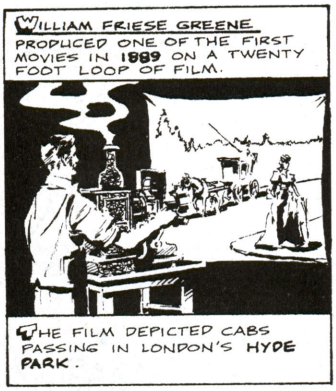
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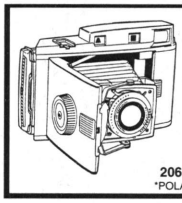
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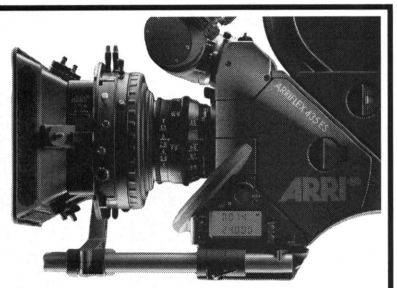
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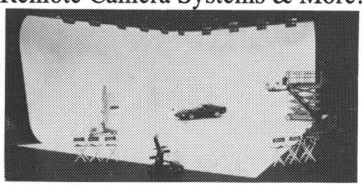
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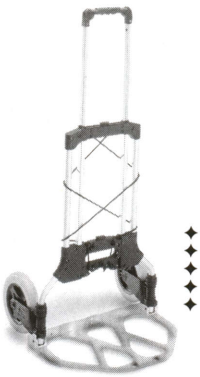
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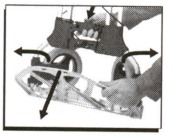
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From the Clubhouse

ASC to Honor Fraker

During an October 7 luncheon held at the ASC Clubhouse in Hollywood, it was announced that William Fraker, ASC would be honored with the American Society of Cinematographers' Lifetime Achievement Award during the 15th Annual ASC Outstanding Achievement Awards ceremony, to be held on February 20, 2000 at the Century Plaza Hotel in Beverly Hills, California.



Following the announcement, Awards Committee Chairman Bud Stone introduced several filmmakers who individually spoke about their experiences working with Fraker. Director John Badham praised the veteran cameraman for his work on the technically daunting production of *WarGames;* director Peter Chelsom noted the air of technical expertise that Fraker brought to his upcoming drama *Town and Country,* describing him as the "youngest cameraman I'd ever want to work with"; and producer Thom Mount recalled that Fraker served as the calm eye of the storm during the convoluted production of *The Best Little Whorehouse in Texas.*

Warmly introduced by Awards Committee Co-Chairman Owen Roizman, ASC — who earned the Lifetime Achievement Award in 1996, and kiddingly warned his longtime friend that it would be "the best and worst experience of his life" — Fraker took the podium and thanked his many well-wishers.

The ASC Awards Committee selected Fraker for the Lifetime Achievement honor in recognition of his diverse and lengthy filmography, which includes such pictures as *Bullitt, Rosemary's Baby, Looking For Mr. Goodbar, Heaven Can Wait, 1941, Murphy's Romance, Tombstone* and *The Island of Dr. Moreau.* In addition, the cameraman has earned five Academy Award nominations. (A complete overview of Fraker's career, along with coverage of his work on *Town and Country,* will appear in *AC* February 2000.)

Fraker is the 13th director of photography to be recognized with the Society's Lifetime Achievement Award. The honor has previously been bestowed upon ASC members George Folsey, Joe Biroc, Stanley Cortez, Charles B. Lang, Jr., Philip Lathrop, Haskell Wexler, Conrad Hall, Gordon Willis, Sven Nykvist, Owen Roizman, Victor J. Kemper and Vilmos Zsigmond.

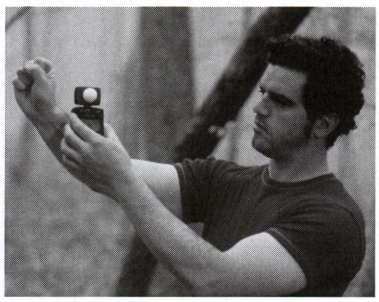
New ASC Inductee

The Society recently welcomed Aaron Schneider as its newest active member. Succumbing to his interests in filmmaking, Schneider walked away from his mechanical engineering studies at Iowa State University to enroll in the USC School of Cinema-Television. There, he was able to attend the "Reflections" workshops that USC staged in conjunction with Panavision and Technicolor, a series of seminars featuring many esteemed directors of photography as lecturers. "These legendary cinematographers would come in, talk about [their work] and then light a scene from one of their famous movies," commented Schneider in the May 1996 issue of *American Cinematographer.* "I became fascinated with the concept of cinematography, which seemed to be this cool blend of both art and science — the

behavior of emulsion, lenses and the properties of light."

After graduating in 1988, Schneider shot a low-budget straight-to-video picture, sidestepping the usual steady rise through the camera ranks. He then honed his craft on music videos for such artists as Blues Traveler, House of Pain, Ice Cube and Dr. Dre, and on commercials for such clients as Mercedes, Nike, Toyota and Sega.

His work caught the attention of director Charles Haid, who was preparing a pilot for producer Steven Bochco entitled *Murder One*. Schneider was hired and subsequently photographed the initial 10 episodes. That series led to consecutive ASC Awards in 1996 (for the episode "Chapter Four," see *AC* May '96)



and in 1997 (for "Chapter Nine," see *AC* May '97), as well as an Emmy nomination. The courtroom drama featured a courtroom predominantly sidelit through three large windows. The center window provided a soft crosslight in line with the actors, while a a lower intensity light was aimed through the first window in front of them. "You can't just put a light through a window. Light is more complex than that," Schneider noted in the May '97 issue of *AC*.

After *Murder One*, Schneider stepped into the feature film arena in 1997 with the suspense thriller *Kiss the Girls* (*AC* Sept. '97), followed by a television pilot for *C-16: FBI* and the feature *Simon Birch*. He teamed with Haid again on the retro-comedic TV series *Buddy Faro* (*AC* Oct. '98).

Fraker photo by Tory Kooyman; Schneider photo by Kimberly Wright; dinner meeting photos by David E. Williams.

Rock 'n' Roll Lighting Demo

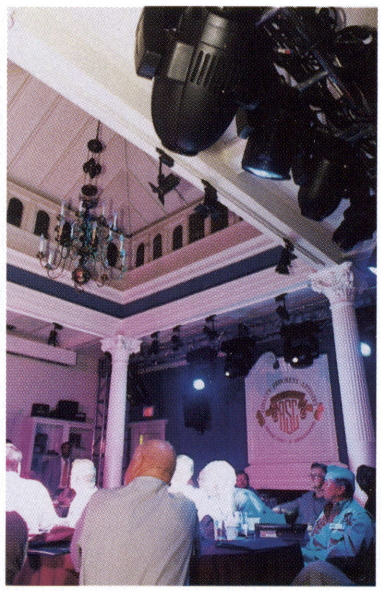
A special dinner meeting held at the ASC Clubhouse on September 27 (organized by Program Chairman Robert Primes, ASC) offered an up-close look at an array of computer-controlled theatrical luminaires, during which the Society's main meeting room was bathed in intense beams of colored light.

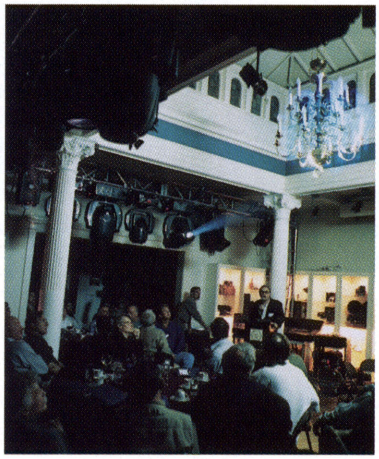
Hanging from an aluminum framework installed in the Clubhouse by West Coast Theatrical were a variety of fixtures from various companies: Martin, Coemar, High End Systems, VariLite, Icon Light and Sound Design. Running through a 1,000-channel Icon lighting desk, the lamps were put through their paces and described by presenter Christian Hibbard and his team from Design Lighting Group, a Van Nuys, California-based company that specializes in renting and prepping such gear.

Presenting a clip from his upcoming film *The Flintstones 2: Viva Rock Vegas,* director of photography Jamie Anderson spoke about the flexibility that theatrical fixtures offer when used in traditional filmmaking situations. The sequence he showed (via a Barco video projector) involved a "prehistoric" nightclub performance featuring many intricate lighting cues, and Anderson explained that the remote-controlled lamps allowed him to quickly reset for multiple takes and carefully tweak color temperatures.

Also on hand was Paul Sangster of Future Lighting, a Los Angeles-based firm that specializes in projection systems commonly used for outdoor advertising. Their 4K, 6K and 12K HMI-based systems can be used to enlarge images (generally sourced from 4 x 5 transparencies or 35mm slides) to cover as much as 10,000 square feet (generally on the sides of buildings). Sangster demonstrated his firm's work with a short video presentation.

The ASC expressed its gratitude to all of the participants involved in this presentation, including Kevin Stolpe and Hollywood Rentals, Inc., who supplied the generators that powered the entire mega-watt show. ■







Opposite page: William Fraker, ASC takes the podium during the Lifetime Achievement Award announcement. This page, far left: New ASC member Aaron Schneider. Near left: Views of the ASC Clubhouse after it was rigged for the September 27 dinner meeting. The demo was presented by Christian Hibbard of West Coast Theatrical (bottom photo, with cameraman Jamie Anderson).

WRAP SHOT



The crew of *Birdman of Alcatraz* captures a conversation between Stroud (Burt Lancaster) and the prison warden (Karl Malden).

For the motion-picture industry, 1962 was a heavyweight year, with such films as *Lawrence of Arabia, The Longest Day, Mutiny on the Bounty, The Miracle Worker* and *To Kill a Mockingbird* all garnering multiple Academy Award nominations. Nestled among these classics was another fine film, United Artists' *Birdman of Alcatraz*, the factual account of convict Robert Stroud, who became one of the world's foremost scientific authorities on birds and their diseases through studies conducted entirely within his prison cell.

To photograph Stroud's tale, director John Frankenheimer enlisted the expertise of Burnett Guffey, ASC. A former Society president (1957-58), Guffey earned two Academy Awards and three nominations during a career that spanned more than 75 films. He took home the Oscar in 1953 for his striking monochromatic work on *From Here to Eternity,* and again in 1967 for the authentic color period look of *Bonnie and Clyde*. His other nominations recognized the black-and-white images he created for *The Harder They Fall* and *King Rat*.

Nearly three-quarters of *Birdman of Alcatraz* took place within a single set measuring barely 6' x 9', erected on a Columbia Studios soundstage in Hollywood. "No concessions were made for the camera or lighting requirements," noted Guffey in the June 1962 issue of *American Cinematographer*. "The tiny cell set was constructed according to the dimensions of the original. In most shots, three of the walls were visible, leaving but one wall 'wild' for removal to accommodate the camera or placement of lights."

Since many shots were executed from low angles, the ceiling piece had to remain in place, complicating the lighting scheme. Juniors, Baby Juniors and tiny spotlights had to be concealed behind props. Guffey usually operated at a stop of f5.6, often using an 18mm wide-angle lens to gain greater depth and coverage within the tiny set.

Calling the small cell "home" was star Burt Lancaster, who garnered a Best Actor nomination for his performance as Stroud. The picture depicts Stroud from the age of 20 to more than 70 years old; to aid in this progression, Guffey lit Lancaster with soft, flat lighting in the film's early scenes, and then switched to sharp, contrasty lighting for scenes depicting the elderly Birdman.

A number of cages containing various birds dressed the cramped cell, and screen-filling close-ups of the creatures were important to the picture. Instead of passing this work to a second unit, Guffey and his crew tackled the shots themselves with extreme patience. "Using four- and six-inch lenses on the camera, our chief problem was obtaining sufficient depth of field to keep the birds in focus as they moved about within the limited camera range," explained the unflappable Guffey. "We managed it rather easily, however, by using Eastman Double-X film and increasing the set lighting level to 600 footcandles, which enabled us to shoot at f11."

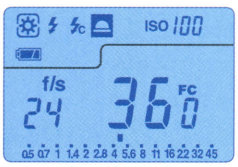
During a prison riot scene, Guffey was able to move out of the confining cell set and stretch his legs. He employed harsh, low-key lighting and mounted his Mitchell on a Chapman boom, allowing the camera to move subjectively into the mayhem. Strong cross-lighting accentuated the explosions of tear gas bombs.

"I believe in keeping it simple," Guffey said. "I have learned over a period of time and from some highly skilled cinematographers that the most striking results are attained by using as few lighting units as possible."

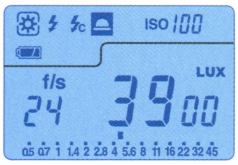
— Douglas Bankston

One Light Meter Can Do It All
New Sekonic L-508 Cine

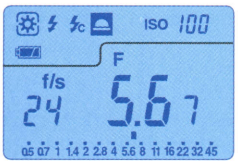
Auto-illuminated LCD displays specialized Cine functions. These are some examples:



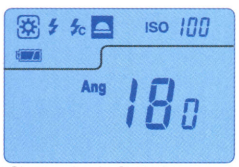
Footcandle + Shutter Speeds F.P.S. + f/stop



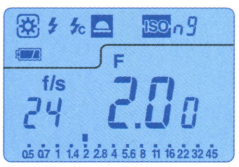
Lux + Shutter Speeds F.P.S. + f/stop



Shutter Speeds F.P.S. + f/stop



aShutter Angle Selection



Filter Compensation

- Zoom Spot 1° to 4°
- Incident
- Footcandle
- Lux
- Footlambert
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American Cinematographer 1979

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